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HAZARDOUS AND CONNECTICUT REGULATED WASTES

PART B

PERMIT APPLICATION

MacDERMID, INC.
526 HUNTINGDON AVENUE
WATERBURY, CONNECTICUT

VOLUME I

NOVEMBER 8, 1988

REVISED
MARCH 19, 1990
MAY 10, 1990

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VOLUME I

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APPENDIX E:	Notification of Hazardous Wastes and Connecticut Regulated Waste Activity (Form One) and TSDF's Application for Permit (Form Three)
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- APPENDIX W: Main Container Storage Area's Rack Storage System Specifications
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- APPENDIX Y: List of Personnel who Attended the 24-hour Training program (29 CFR 1910.120) and Qualifications of the Instructor

HAZARDOUS AND CONNECTICUT REGULATED WASTES

PART B PERMIT APPLICATION

MACDERMID, INC.
526 HUNTINGDON AVENUE
WATERBURY, CONNECTICUT

1.0 INTRODUCTION

1.1 General Background

MacDermid, Inc. is located on two parcels of property north and south of Huntingdon Avenue in the Fairmont section of Waterbury, Connecticut (See Figure 1.1). The southern parcel is approximately 11 acres in area and houses MacDermid's manufacturing, laboratory facilities and offices. The northern parcel is approximately 42 acres in size and is mostly undeveloped except for MacDermid's vacant office building, located on the eastern portion.

The principle business of MacDermid, Inc. is the blending, or compounding, of chemical materials used in the metal finishing, plating on plastics, electronics, micro electronics, and surface treatment industries. As an adjunct to the principle business, MacDermid reprocesses used chemicals received from their customers or off-site MacDermid facilities for recycling. As a result of these operations, hazardous wastes and Connecticut regulated wastes (non-hazardous wastes) are generated, stored temporarily on site, and/or recycled. Ultimately all hazardous wastes and Connecticut regulated wastes are removed from the site by certified waste haulers and disposed of at *permitted hazardous waste disposal facilities.*

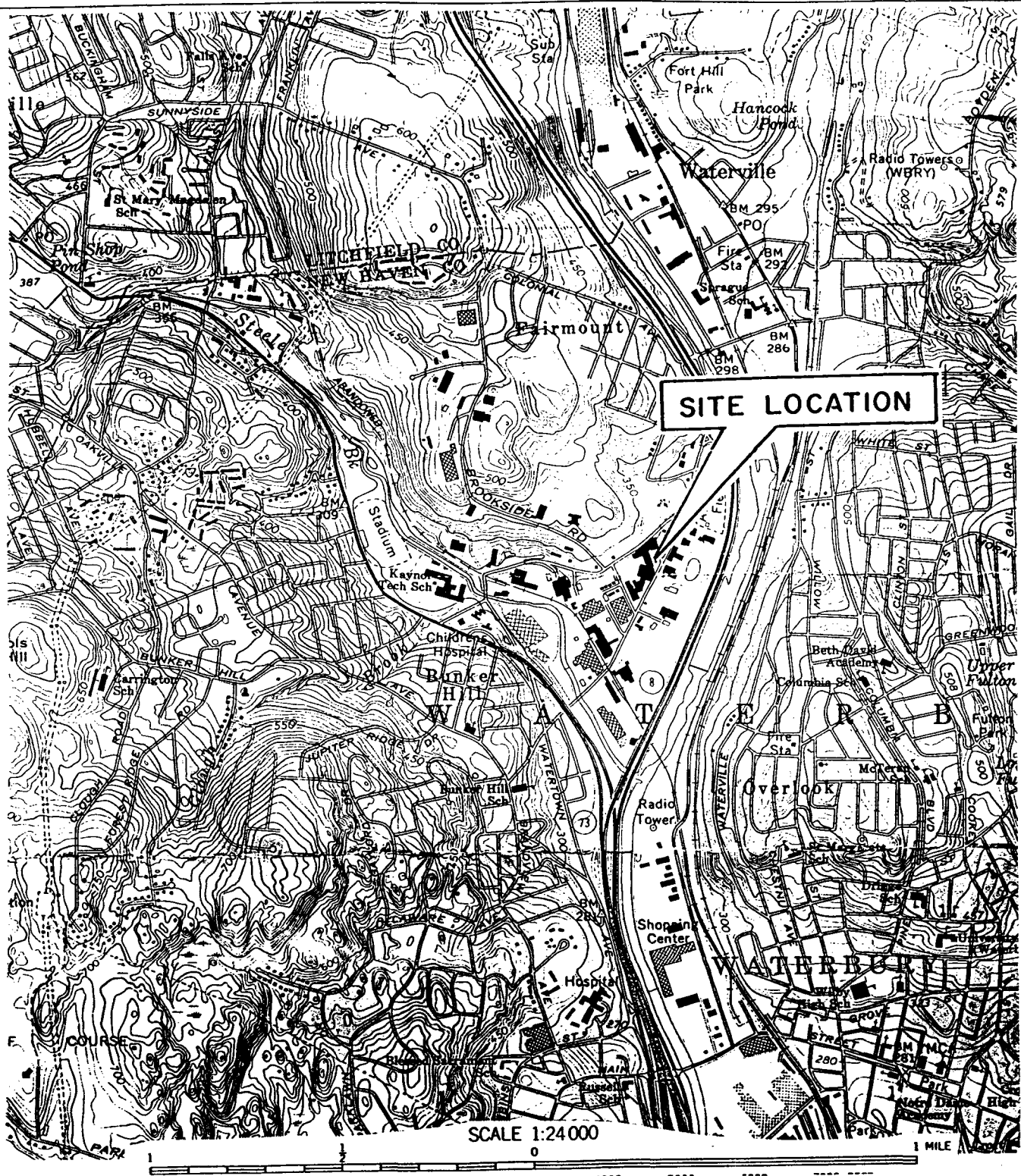
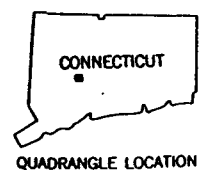


FIGURE 1.1
SITE LOCATION MAP
MAC DERMID, INC.
526 HUNTINGDON AVE.
WATERBURY, CT.



Certain electronics, metal finishing, micro electronics, plating on plastics and surface treatment chemicals received from MacDermid's customers are defined as "used" or "spent", and are recyclable since these materials, due to contamination, can no longer serve the purpose for which they were produced without processing. In addition, since several of these used materials are known to exhibit hazardous characteristics such as pH >12.5, E.P. toxicity lead concentration greater than 5.0 mg/l, etc., and are processed by MacDermid to recover a useable product (regenerated), such materials are further defined as hazardous wastes.

As defined under 40 CFR Section 261.6, the hazardous wastes recycled at MacDermid, Inc. are subject to the following regulatory requirements:

- (1) 40 CFR Part 262 Standards for Generators of Hazardous Waste.
- (2) 40 CFR Part 263 Standards for Transporters of Hazardous Waste.
- (3) 40 CFR Parts 264 (Subparts A through L), 124, 266, 268, and 270 Standards for Treatment, Storage and Disposal Facilities of Hazardous Waste.

The recycling operation process itself is exempt from all current Federal hazardous waste regulations.

Connecticut regulated wastes are subject to the standards defined under Section 22a-454 of the Connecticut General Statutes. These standards which are listed below apply to both the storage and recycling operations performed at the Huntingdon facility.

- (1) General Facility Requirements
- (2) Waste Analysis Plan
- (3) Inspections

- (4) Contingency Plan
- (5) Security
- (6) Closure Plan, Cost Estimate, Financial Assurance
- (7) Manifest
- (8) Record keeping
- (9) Specific requirements for tanks and containers
- (10) Permit Modifications

Since the Connecticut regulated wastes will be handled in the same manner as the hazardous wastes, detailed plans and management programs describing the facilities and operations listed below have been provided in the subsequent sections of this permit application.

- storage and transportation of recyclable hazardous/CT regulated wastes and the recycling process; and
- storage of hazardous and CT regulated wastes generated on-site and received from the 245 Freight Street facility up to the point they are removed off-site by a licensed hauler for final treatment/disposal.

For easy reference, each section in this application has been noted with the Section number from the Code of Federal Regulations (CFR) Sections 264 and 270.

1.2 EPA Identification Number [40 CFR 264.11]

MacDermid, Inc.'s EPA Identification Number is CTD 001164599. The original Part A application was submitted on November 13, 1980. A copy of the revised Part A application (March 19, 1985) is provided as Appendix A. The Part A permit was further revised on November 8, 1988, as part of the original Part B application. This is included as Appendix B.

1.3 Current Permit Status

MacDermid's Part A application has been revised a third time for this application. A copy of this revised Part A application is enclosed in Appendix C of this application.

The changes/modifications made in this revision to the Part A Application are as follows:

Form 3

- Container storage capacity to 82,170 gallons
- Certification

A copy of MacDermid's interim permit for Connecticut regulated wastes is provided as Appendix D. Provided as Appendix E is a copy of MacDermid, Inc.'s:

- Notification of Hazardous Wastes and Connecticut Regulated Wastes Activity (Form One).
- TSDF's Application for Permit (Form Three).

1.4 Required Notices [40 CFR 264.12]

In accordance with 40 CFR 264.12, MacDermid, Inc., will perform the following as required:

- Notify the Regional Administrator, in writing, at least four weeks in advance of the date the hazardous waste from a foreign source is expected to arrive at the facility;
- inform the generator, in writing, that MacDermid, Inc. has the appropriate permit(s) for, and will accept the waste the generator is shipping; and
- notify the new owner or operator, in writing, of the requirements of 40 CFR 264 and 270 before transferring ownership or operation of the MacDermid facility during the operating life.

- 1.5 Releases From Solid Waste Management Units
 [40 CFR 264 Subpart F]

 Not applicable to MacDermid, Inc.
- 1.6 Surface Impoundments [40 CFR 264 Subpart K]

 Not applicable to MacDermid, Inc.
- 1.7 Waste Piles [40 CFR 264 Subpart L]

 Not applicable to MacDermid, Inc.
- 1.8 Land Treatment [40 CFR 264 Subpart M]

 Not applicable to MacDermid, Inc.
- 1.9 Landfills [40 CFR 264 Subpart N]

 Not applicable to MacDermid, Inc.
- 1.10 Incinerators [40 CFR 264 Subpart O]

 Not applicable to MacDermid, Inc.

2.0 GENERAL FACILITY DESCRIPTION [40 CFR 270.14(b)(1)]

2.1 General Operation

The MacDermid, Inc. facility located at 526 Huntingdon Avenue in Waterbury, Connecticut manufactures specialty chemicals for the metal finishing electronics, micro electronics, plating on plastics and surface treatment industry. For the specialty chemical products listed below, MacDermid, Inc. has or is in the process of developing a recycling service for their customers and off-site MacDermid facilities.

- Copper Etchant
- Solder Stripper
- N-Methyl Pyrolidone
- Solder Conditioner (not recycled on-site at this time)
- Electroless Copper (not recycled on-site at this time)

N-Methyl Pyrolidone will be referred to as NMP throughout the remainder of this application. Under this recycling operation, the used surface finishing chemicals are managed as follows:

- shipped to MacDermid, Inc. in tank trucks (bulk) or in containers for recycling;
- bulk materials are transferred to the waste storage tanks and containers are transferred to the main container storage area or the combustible storage area for temporary storage;
- all used materials are tested to verify the contents of the containers and tank trucks.
- used materials are transferred to the recycling process operation to be reclaimed or shipped off-site for reclamation;
- recycled materials are temporarily stored on site prior to being returned/resold to customers for reuse.

In addition to the used surface finishing chemicals received from MacDermid customers and off-site MacDermid facilities, the following waste streams are managed at the Huntingdon Avenue facility.

- Waste streams generated at MacDermid's 245 Freight Street facility located in Waterbury, Connecticut. These waste streams include by-products generated from the research and development of specialty chemicals to be used in the metal finishing, electronics, plating on plastic, surface treatment and micro electronics industries; and
- Waste streams generated on-site from the manufacturing and development of specialty chemicals to be used in the metal finishing, electronics, plating on plastic, surface treatment and micro electronics industries.

As a result of the manufacturing and recycling operations performed at the 526 Huntingdon Avenue facility, MacDermid, Inc. is classified as a Generator and a Storer of Hazardous Waste and a commercial Connecticut Regulated Waste Facility. As indicated under Section 1.1 of the application, the recycling process itself is regulated only under State of Connecticut's General Statutes (exempted from Federal hazardous waste regulations). Therefore, since the recycling operation is regulated by the State of Connecticut's Department of Environmental Protection (CT-DEP) and CT-regulated wastes will be handled in the same manner as hazardous waste, all storage areas and process units used to manage wastes at the Huntingdon Avenue facility are described in this permit application.

2.2 Facility Details

At the 526 Huntingdon Avenue facility, the following facilities are employed by MacDermid Inc. to manage hazardous and CT-regulated wastes generated on-site, received from 245 Freight Street, and received from customers/off-site MacDermid facilities for recycling:

- Main container storage area;
- Flammable material storage area;
- Combustible storage area;
- Metal hydroxide/sulfide sludge storage area;
- Waste storage tanks;
- East Aurora Street warehouse loading area;
- Huntingdon Avenue plant bulk loading/unloading area;
- Quality Control area;
- NMP and solder stripper recycling area; and
- Copper etchant recycling area

The general locations of these facilities are shown on Figure 2.1.

2.2.1 Main Container Storage Area

To store both the bulk of used surface finishing chemicals received for recycling; the hazardous and CT-regulated wastes generated on-site; and the hazardous and CT-regulated wastes received from 245 Freight Street; MacDermid, Inc. has provided a container storage area designed to safely handle 77,000 gallons of aqueous material. This rectangular shaped area, which is located on the north side of the East Aurora Street facility, measures approximately 93' long by 42' wide.

Secondary containment is provided within this storage area by means of an epoxy (see Appendix F) coated concrete floor which is free of cracks or gaps, building walls, 3½" concrete berm, and a collection sump located in the northern portion of the storage area.

**US EPA New England
RCRA Document Management System
Image Target Sheet**

RDMS Document ID # 100863

Facility Name: MACDERMID INC

Facility ID#: CTD001164599

Phase Classification: R-1B

Purpose of Target Sheet:

☒ **Oversized** (in Site File) ☐ **Oversized** (in Map Drawer)

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Purpose Below)

Description of Oversized Material, if applicable:

FIGURE 2.1: FACILITY LAYOUT

☒ **Map** ☐ **Photograph** ☐ **Other** (Specify Below)

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The collection sump which is connected to the two (2) floor drains located within this storage area has a storage capacity of 200 gallons and is equipped with a manually operated control valve. From this sump, all collected waste after visual/chemical inspection by MacDermid personnel is either discharged to the industrial waste water treatment tank or transferred to 55 gallon drums for off-site disposal. The control valve located outside the plant building is kept closed at all times except during transfer of the accumulated waste to the industrial waste water treatment system.

Containers (55 gallon drums) within this area are stored on 42" x 42" wooden pallets a maximum of five (5) high on the storage racks. The storage racks which are stationed along the side walls and stationed two deep within the middle of the storage area are separated by a minimum of 6'9" wide aisles to allow personnel and equipment access for inspection and container handling. The 330 gallon storage totes (a maximum of 20) are stored at the north and south ends of this area.

This storage area is described in detail in Sections 4.0 and 9.0 of this application.

2.2.2 Flammable Material Storage Area

The flammable material storage area, which is located within the northeastern section of the Gear Street facility, is designed to store sixteen (16), 55 gallon drums or 880 gallons

of flammable/combustible waste. Dimensions of this storage area are 8'1" by 10'0".

Secondary containment is provided by an epoxy (see Appendix F) coated concrete floor which is free of cracks or gaps and epoxy coated 4" x 4" angle iron berms. The angle iron berms, which completely surround this storage area, are anchored to the concrete floor with 1/2" steel studs.

Located outside the flammable storage area is a floor trench used to collect any material spilled/leaked from the area's process operation. All waste collected within the trench is discharged to the industrial waste treatment system.

To prevent contact with any spilled/leaked material, all containers within this area are stored on wooden pallets.

To allow for inspection, the containers are stored a maximum of two deep and the two rows are separated by a two (2) foot wide aisle. A buffer zone of 2 feet (free of any drums, equipment, etc.) is located in front of the storage area, so drum handling equipment can have clear access to the area.

This area is described in detail in Sections 4.0 and 9.0 of this application.

2.2.3 Combustible Storage Area

The combustible storage area which is located in the south end of the Gear Street building is used primarily to store the NMP waste stream prior to recycling. This storage area which measures 24' x 24' is designed to store a maximum of

4,290 gallons of waste material. The type and number of containers to be stored in this area include fifty four 55-gallon drums and four 330-gallon storage totes.

Secondary containment is provided within this area by means of an epoxy (see Appendix F) coated concrete floor which is free of cracks or gaps, the building wall, and epoxy coated 3"x3" angle iron berms. The angle iron berms are anchored to the concrete floor with 3/8" steel studs. To prevent contact with any spilled/leaked material, the 55 gallon drums are stored on wooden pallets. The storage totes are stored directly on the concrete floor.

To allow for inspection, the 55 gallon drums which are stored a maximum of two deep and two high are separated by 2.0'-4.5' wide aisles. The storage totes which are stored only one high along the east wall are also provided with 2.0'- 4.5' wide aisles.

This storage area is described in detail in Sections 4.0 and 9.0 of this application.

2.2.4 Metal Hydroxide/Sulfide Sludge Storage Area

The dewatered metal hydroxide/sulfide sludge generated from MacDermid's industrial waste water treatment system is stored on-site in a single 26 cubic yard roll-off equipped with a drop-in liner. This roll-off is housed in the building located directly south of the Huntingdon Avenue gate and is stored on a concrete floor that is free of cracks or gaps. Secondary

containment is provided in this area by means of a concrete floor, building walls and berm located in front of the garage door. Any spilled material in this area will be discharged to the wastewater treatment system by the floor trench.

To prevent the migration of liquids into the concrete surface and building walls (height of at least 3"), this area will be coated with the epoxy coating stonclad HT (see Appendix K) by August 1, 1990.

This storage area is described in detail in Sections 4.0 and 9.0 of this application.

2.2.5 Waste Storage Tanks

All bulk waste generated and received at MacDermid, Inc. is stored on-site within four (4) above ground storage tanks. These tanks, which are located on the west side of the Huntingdon Avenue building, have a total storage capacity of 29,000 gallons.

Secondary containment for these tanks is provided by an epoxy (see Appendix F) coated concrete floor that is free of cracks or gaps, building walls and a 2'-7" high block wall located at both entrance ways. The floor trench located within this area leads to a single floor drain which discharges directly to the industrial waste water treatment system. All wastes stored within these tanks are designated for recycling. Provided in Sections 4.0, 9.0, and 12.0 of this application are details on

the operation and construction of the storage tanks and storage area.

2.2.6 East Aurora Street Warehouse Loading Area

The East Aurora Street warehouse loading area which is located on the south side of the warehouse is used for all on-site and off-site deliveries of waste containers (excluding the 26 cubic yard roll-off). This area, which measures 115' x 19' consists of a concrete floor that slopes 4 inches from the loading/unloading docks to the storage level. This area is also used for performing spot tests on the used surface finishing chemicals received from independent carriers. Within this area, containers of used surface finishing chemicals are temporarily stored for 4-6 hours before being moved to the appropriate storage location or returned (rejected) to the customer, based on spot test results.

Any spillage within this area will be contained by virtue of the sloped concrete floor, concrete berm along the doors and the masonry block wall. The floor, walls and berms in the loading dock area are free of any cracks or gaps.

Provided in Sections 4.0, 9.0 and 12.0 of this application are details on the waste container loading/unloading operations and construction of the warehouse loading area.

2.2.7 Huntingdon Avenue Plant Bulk Loading/Unloading Area

All on-site and off-site deliveries of bulk waste takes place at the Huntingdon Avenue plant bulk loading/unloading

area. This loading/unloading dock is located within the Huntingdon Avenue plant.

Any spillage within area will be contained by virtue of the building concrete floor, walls and berm located in front of the entrance way. Provided in Sections 4.0, 9.0 and 12.0 of this application are details on the bulk loading/unloading area.

2.2.8 Quality Control Area

The quality control area which is located adjacent to the main container storage area is used for performing spot tests on the used surface finishing chemicals received on MacDermid's trucks. Within this area, containers of used surface finishing chemicals are temporarily stored (a maximum of 72 hours), spot tested and then, based on the test results, either moved to the appropriate storage location, or returned (rejected) to the customer or off-site MacDermid facility. A detailed description of the testing and rejecting procedures followed at this facility, is provided under Section 5.4.

Any spillage within this area will be contained by virtue of the area's concrete floor and the building walls and berms which surround this area except for the 6' wide entrance way. This opening is located approximately 100 feet from the nearest outside door.

2.2.9 NMP and Solder Stripper Recycling Area

The recycling operations for the NMP and the solder stripper are performed within the Pilot Plant. The Pilot Plant

which also houses the flammable material storage area is located within the northeastern section of the Gear Street facility. A detailed description of these recycling operations is provided under Section 4.3 of this application.

Any spillage within this area will be contained by the area's sloped concrete floor and discharged directly to the wastewater treatment system (floor drains). The wastewater treatment system was designed specifically for the treatment of surface finishing chemicals manufactured and recycled at this facility. Therefore, the direct discharge of these materials into the wastewater treatment system (without testing) is appropriate. Provided under Section 9.1.4 is a more detailed description of the portion of the wastewater treatment system which receives any spillage within the main plant building.

2.2.10 Copper Etchant Recycling Area

The recycling operation for the copper etchant is performed in the Process Area located adjacent to the waste storage tanks. A detailed description of this recycling operation is provided under Section 4.3 of this application.

Any spillage within the process area, will be discharged directly to the wastewater treatment system by the area's sloped concrete floor/floor trench system. The wastewater treatment system was designed specifically for the treatment of surface finishing chemicals manufactured and recycled at this facility. Therefore, the direct discharge of these materials into

the wastewater treatment system (without testing) is appropriate. Provided under Section 9.1.4 is a more detailed description of the portion of the wastewater treatment system which receives any spillage within the main plant building.

2.3 Facility Operation

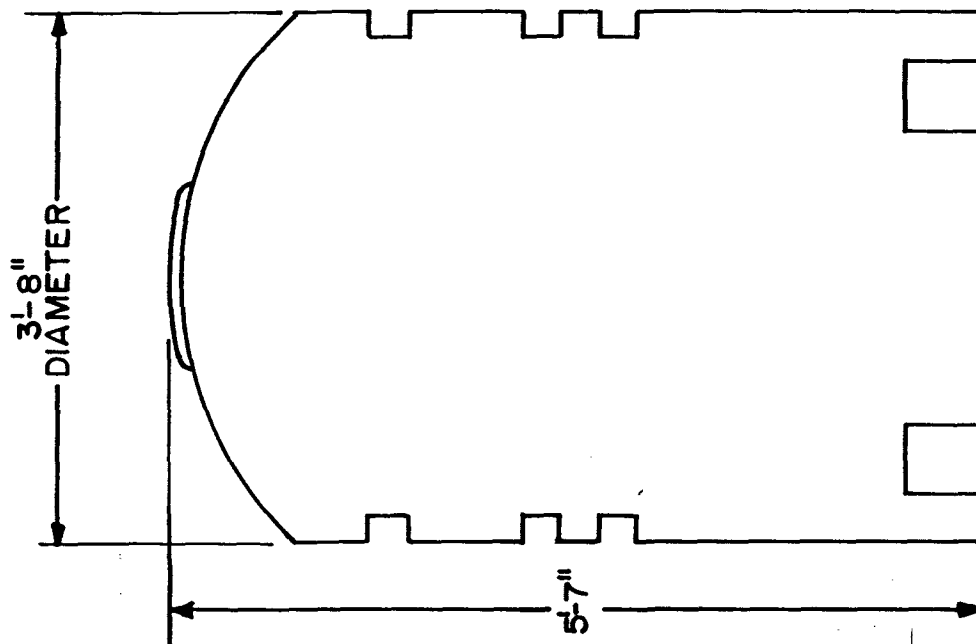
At MacDermid, Inc.'s 526 Huntingdon Avenue facility in Waterbury, Connecticut, all waste streams generated on-site and received from customers/off-site MacDermid facilities are stored in either: containers (5 gallon plastic containers, 55 gallon plastic and steel drums, 330 gallon circular and cube storage totes and 26 cubic yard roll-off); or in above ground FRP storage tanks, prior to being recycled or shipped off-site for final treatment/disposal. The recycling operation is described in detail in Section 4.3. Shown on Figure 2.2 are drawings of the storage totes which are designed for fork-lift handling. The cube storage totes which are contained within a steel cage are designed for two (2) high storage.

Normal operating hours at the Huntingdon Avenue facility are 6:30 am to 10:30 pm, Monday through Friday and 6:30 am to 12:00 pm on Saturday, as needed. The facility is closed on Sunday.

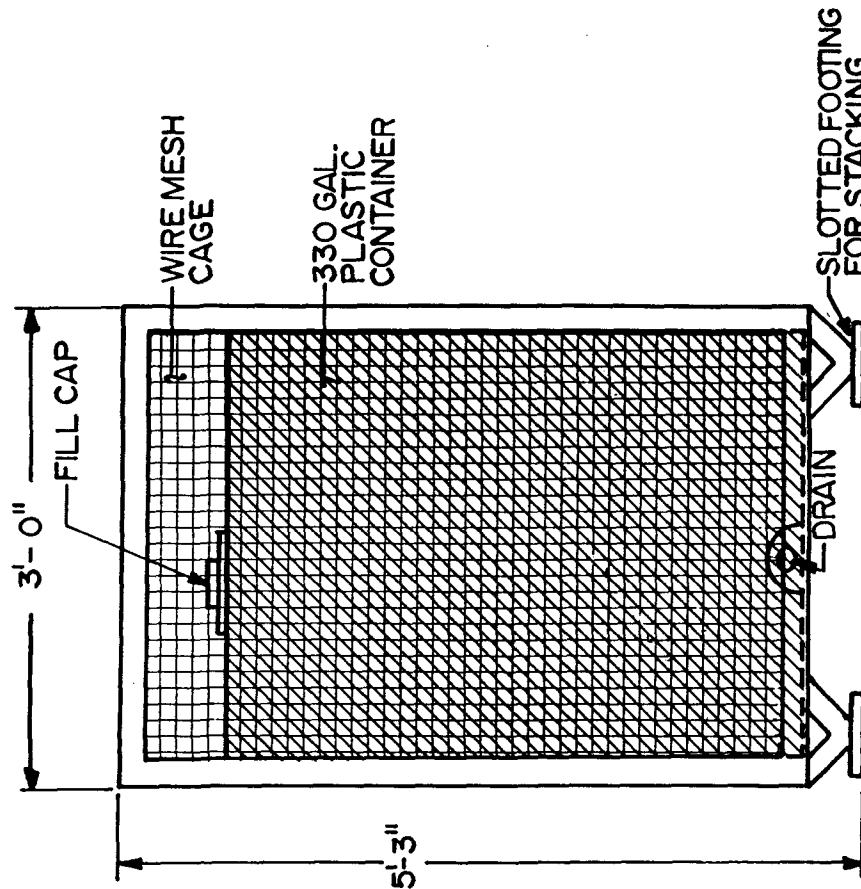
The specific procedures followed by MacDermid for the waste streams managed in containers and tanks are provided in Sections 2.3.1 and 2.3.2, respectively.

2.3.1 Containers

To minimize the potential of hazardous waste constituents release to the environment or threatening human health, all container storage areas are inspected on a weekly



CIRCULAR STORAGE TOTE



CUBE STORAGE TOTE

FIG. 2.2
STORAGE TOTES
MACDERMID, INC.
526 HUNTINGDON AVE.
WATERBURY, CT.
NTS PB-MAN-0
10/88

basis for malfunctions, deterioration and operator errors. Loading and unloading areas are inspected daily for leaks and spills.

The specific procedures for loading, unloading and transporting container shipments are as follows:

a) Unloading Operations for Containers

The specific procedures for unloading containers at the East Aurora Street warehouse dock are as follows:

- Container trucks will enter through the receiving gates located on East Aurora Street and park adjacent to the loading/unloading dock. The driver of the truck will report to the warehouse office.
- If the material is accepted by the warehouse personnel and/or office personnel (designated for storage or recycling), the driver will be instructed to proceed to the container unloading area.
- While unloading, the warehouse personnel will inspect the load to determine if any containers are damaged, unsealed, leaking, improperly marked or not numbered according to the manifest.
- Any damaged container will be transferred to an overpack container, sealed, and properly labelled prior to being unloaded.
- If any discrepancies are discovered, MacDermid, Inc. will telephone the generator or transporter to reconcile the discrepancy and within twenty (20) days, submit a report to the CT-DEP describing the discrepancy and the attempts to reconcile it.
- For wastes received from MacDermid's 245 Freight Street facility (excluding used surface finishing chemicals), the Shipping/Receiving Group Leader or his assistant will review the analytical data (see Section 5.4.2) to determine if the waste load is acceptable for on-site storage. If accepted, the load will be transported to the appropriate storage area and stored on 42" x 42" pallets to prevent

contact with free standing liquids (except storage totes). If not accepted, the rejected containers will be loaded back onto the truck and the driver will be instructed to return the waste load to 245 Freight Street.

- For used surface finishing chemicals received on MacDermid's carriers and off-site MacDermid facilities, the load will be transported to the Quality Control area for spot testing. Used surface chemicals received from independent carriers will be spot tested on the East Aurora Street warehouse dock. Based on the results of these tests (see Section 5.4), the waste load will either be transported to the appropriate storage area on 42" x 42" pallets (except totes) or rejected and returned to the customer/off-site MacDermid facility.
- Drivers of independent carriers will be instructed to receive their completed paperwork (manifest) from the shipping/receiving office when the load is unloaded and accepted for storage.
- Drivers of MacDermid vehicles will be instructed to leave their paperwork (manifest) at the shipping/receiving office. The manifest will be completed only after the load has been accepted for storage (see Section 5.4).
- Any spills or leaks from the containers will be cleaned up, as soon as they are detected, and the area decontaminated.

b) Loading Operations For Containers (5 gallon containers, 55 gallon drums and 330 gallon storage totes)

The specific procedures for loading 5 gallon containers, 55 gallon drums and 330 gallon storage totes are as follows:

- Container trucks will enter through the receiving gates located on East Aurora Street and park adjacent to the loading/ unloading dock. The driver of the truck will report to the warehouse office.

- The warehouse personnel will inspect the load to make sure all containers are in good condition and properly marked and labelled.
- Any damaged container will be transferred to an overpack container, sealed, and properly labelled prior to being loaded onto the truck.
- When the truck is loaded, the driver will be instructed to receive his completed paperwork (manifest) from the shipping/ receiving office.
- Any spills or leaks from the containers will be cleaned up as soon as they are detected, and the area decontaminated.

c) Loading Operations for Roll-Offs

The specific procedures for loading the 26 cubic yard roll-off of dewatered metal hydroxide/sulfide sludge are as follows:

- All trucks will enter the site via the Huntingdon Avenue gate. To obtain access through this locked gate, the driver will activate the bell in the manufacturing area to contact the manufacturing personnel. Upon entering the site, the driver will be directed to the roll-off storage area. The entrance gate will be closed by the manufacturing personnel.
- Prior to actual loading the roll-off onto the truck, the manufacturing personnel will inspect the roll-off to make sure the tarp is securely attached.
- When the truck is loaded, the driver will be instructed to receive his completed paperwork (manifest) from the shipping/receiving office.

d) On-site Container Transporting

- The warehouse personnel will inspect all containers to make sure all containers are in good condition and properly marked and labelled prior to being transported to the recycling area or the loading/unloading dock.

- The material within any damaged container will be transferred to an approved container prior to being transported to the recycling area or the loading/unloading dock.
- Upon approval from warehouse personnel, each drum is transported to the container recycling area or the loading/unloading dock by an experienced operator using a barrel grabber or forklift. With the forklift, a maximum of four 55 gallon drums on a wooden pallet will be moved at a time. All container transporting will be performed on concrete and asphalt.

2.3.2 Tanks

All bulk material transfers at the tank loading/unloading area are carried out with extreme care and caution so as to minimize the occurrence of leaks or discharges from truck fittings and related storage tank structures. During loading and unloading, an operator will be present at all times to ensure that an overflow of waste does not occur.

The specific procedures for loading and unloading bulk shipment material are as follows:

a) Unloading Operations For Bulk Material

- All bulk material will be delivered on-site via the Huntingdon Avenue gate. To obtain access through this locked gate, the driver will activate the bell in the manufacturing area to contact manufacturing personnel. Upon entering the site, the driver will be directed to the bulk loading/unloading area. The entrance gate will be closed by manufacturing personnel.
- The truck will be gauged and sampled as necessary in accordance with the procedures specified in the Waste Analysis Plan (See Section 5.0).
- Prior to actual unloading, the manufacturing personnel will determine tank storage capacity by

noting the external site gauge located on each tank (See Operating Logs in Section 11.0) to determine if the contents of the truck will fit into the tank(s) being pumped into (prevent overflowing of any tank). To further prevent the possibility of overfilling tanks, high level sensors with audible and visual signals have been installed on all bulk tanks.

- Any spills or leaks from the truck discharge piping will be cleaned up, as soon as they are detected, and the area decontaminated.
- When the truck is unloaded, the driver will be instructed to receive his completed paperwork (manifest) from the traffic department.

b) Loading Operations For Bulk Material

- All trucks for bulk pick-up will enter the site via the Huntingdon Avenue gate. To obtain access through this locked gate, the driver will activate the bell in the manufacturing area to contact the manufacturing personnel. Upon entering the site, the driver will be directed to the bulk loading/unloading area. The entrance gate will be closed by the manufacturing personnel.
- Prior to actual loading, the manufacturing personnel will determine tank storage capacity by noting the external site gauge located on each tank (See Operating Logs in Section 11.0) to determine the quantity of material available for transfer. This will prevent overfilling the truck.
- Any spills or leaks from the truck discharge piping will be cleaned up, as soon as they are detected, and the area decontaminated.
- When the truck is loaded, the driver will be instructed to receive his completed paperwork (manifest) from the traffic department.

3.0 WASTES MANAGED ON-SITE

The hazardous and CT-regulated wastes managed at MacDermid's 526 Huntingdon Avenue facility are as follows:

- Used MacDermid metal finishing, electronic surface treatment, micro electronic and plating on plastics chemicals received from MacDermid's customers or other MacDermid facilities including MacDermid products which, due to contractual agreements are listed under a different manufacturer's name (e.g. Hubbard Hall lists MacDermid copper etchant as Hub-thane).
- Waste streams generated at MacDermid's 245 Freight Street facility located in Waterbury, Connecticut. These waste streams include by-products generated from the research and development of specialty chemicals to be used in the metal finishing, electronics, plating on plastic, surface treatment and micro electronics industries; and
- Waste streams generated on-site from the manufacturing and development of specialty chemicals to be used in the metal finishing, electronics, plating on plastic, surface treatment, micro electronics industries.

A description of each of these waste streams are provided under Tables 5.1, 5.2 and 5.3 of this application.

Laboratory results for the surface chemicals received from customers and MacDermid's On-Site Generated Wastes/Spot Test sheets for the waste streams received from the 245 Freight Street facility are provided under Appendix V. The waste streams generated on-site (excluding recyclable surface chemicals) are analyzed by the receiving TSDF.

4.0 PROCESS DESCRIPTION [40 CFR 270.15 and 270.16]

The principle business of MacDermid, Inc. is the manufacture and sale of process chemicals to the metal finishing, plating on plastics, micro electronics, electronics and surface treatment industries. MacDermid also provides a recycling service for certain specialty chemical products returned by their customers or off-site MacDermid facility. Through these manufacturing and recycling operations, hazardous and CT-regulated wastes are generated and temporarily stored on-site. Ultimately, all wastes are either: recycled on-site for resale to customers; or shipped off-site by certified waste haulers and disposed of at permitted hazardous waste disposal facilities.

Described herein, are the various operations employed by MacDermid, Inc. to store wastes.

Section 4.1 describes operations associated with containerized wastes including:

- 4.1.1 Loading/Unloading Operations
- 4.1.2 Specific Storage Area Operations
- 4.1.3 Acceptable Containers
- 4.1.4 Compatibility of Wastes
- 4.1.5 Inspections of Container Storage Areas.

Section 4.2 describes operations associated with bulk wastes including:

- 4.2.1 Loading and Unloading Operations
- 4.2.2 Storage Tank Operations
- 4.2.3 Compatibility of Wastes
- 4.2.4 Tank Inspections
- 4.2.5 Tank Filling and Transfer Procedures.

Section 4.3 details the recycling operation for each material recycled. In addition, Section 4.4 describes on-site transportation of containers; Section 4.5, manifest processing; and Section 4.6, manifest discrepancies.

4.1 Containerized Waste

At MacDermid, Inc., containerized wastes are generated from the following sources:

- By products from the research and manufacturing of plating, surface finishing and printed circuit board chemicals which are generated on-site and received from MacDermid's 245 Freight Street facility;
- Sludges generated from the on-site treatment of research and manufacturing process waste streams; and
- Off-site customers and MacDermid facilities returning used surface finishing chemicals for recycling.

The used surface finishing chemicals returned for recycling are the following: copper etchant, solder stripper, solder conditioner, electroless copper and NMP. As discussed under Section 2.1, recycling operations for the solder conditioner and the electroless copper streams are not presently performed at this site. These wastes are stored on-site only.

All used material is returned in the same container in which the virgin material was received. Included below is a description of the facilities and the procedures employed by MacDermid, Inc. to handle containerized wastes. The container handling equipment used on-site is provided in Appendix G.

4.1.1 Container Loading/Unloading

The loading and unloading operations for 5 gallon containers, 55 gallon drums and 330 gallon storage totes of waste take place at the East Aurora Street material warehouse loading area. The loading and unloading of the dewatered metal hydroxide/sulfide sludge generated at MacDermid, Inc. takes place at

the building located south of the Huntingdon Avenue gate. The general locations of these facilities are shown on Figure 2.1.

4.1.1.1 Facility Description - Loading/Unloading Dock East Aurora Street

A. Container Loading/Unloading Dock

The container loading/unloading dock is located on the south side of the East Aurora Street warehouse. This area, which measures 115' x 19' consists of a concrete floor that slopes 4 inches from the loading/unloading docks to the storage level.

Any spillage within this area will be contained by virtue of the sloped concrete floor, concrete berm along the doors and the masonry block wall. The floor, walls and berms in the loading dock area are free of any cracks or gaps.

B. Metal Hydroxide/Sulfide Sludge Loading/Unloading Area

The dewatered metal hydroxide/sulfide sludge is discharged directly into a 26 cubic yard roll-off which is housed in the building located south of the Huntingdon Avenue gate. Movement of this roll-off from the building occurs through the garage door located on the south side of the building.

Secondary containment is provided in this area by means of a concrete floor, building walls and berm located in front of the garage door. Any spilled material in this area will be discharged to the wastewater treatment system by the floor trench (see Section 9.1.4). The floor, walls and berms in this area are free of any cracks or gaps.

4.1.1.2 Facility Operation - Procedures

The procedures described under this section apply only to the loading/unloading of containers at the East Aurora Street warehouse dock. All container loading/unloading operations will be carried out with extreme care so as to minimize the possibility of damaging any containers. Such operations will be carried out only by an experienced fork-lift operator under the supervision of the supervisor and/or the group leader.

During all loading/unloading operations, at least ten (10) bags of absorbent and three (3) empty open-head drums will be maintained on hand inside the East Aurora Street material warehouse in the event that spills occur during said operations. No smoking, open flames, welding, metal working, or

other activities which may initiate a spark will be allowed within 50 feet of the loading/unloading area.

A) Unloading

The specific procedures for unloading container shipment material are as follows:

- 1) Container trucks will enter the facility through the south end receiving gate on East Aurora Street. The driver will be directed to park adjacent to the loading/unloading dock, and report to the warehouse office. If the material is accepted by the warehouse personnel and/or office personnel (designated for storage or recycling), the driver will be instructed to proceed to the container unloading area. The warehouse personnel will then inspect the load to make sure it meets MacDermid's container acceptance policy.

2a) Container Acceptance Policy

While unloading, the containers will be inspected to determine if any containers are damaged, unsealed, leaking, improperly marked, or not numbered according to the manifest. Any dam-

aged containers or discrepancies will be referred to the warehouse supervisor for remediation. Damaged containers will be transferred to an overpack container, sealed, and properly labelled, prior to being unloaded. If any discrepancies are discovered, the warehouse supervisor will follow MacDermid's container discrepancy policy outlined below.

2b) Manifest Discrepancy Policy

Any variations in piece count for containers, will be considered a significant discrepancy. An attempt will be made to reconcile the discrepancy with the waste generator or transporter. If the discrepancy is not resolved within 20 days after receiving the waste, a letter will be submitted to the Regional Administrator describing the discrepancy and attempts to reconcile it, along with a copy of the manifest or shipping papers.

- 3) For wastes received from MacDermid's 245 Freight Street facility (excluding used surface finishing chemicals), the Shipping/Receiving Group Leader or his

assistant will review the analytical data (see Section 5.4.2) to determine if the waste load is acceptable for on-site storage. If accepted, the load will be transported to the appropriate storage area and stored on 42" x 42" pallets to prevent contact with free standing liquids (except storage totes). If not accepted, the driver of the truck will be instructed to return the waste load to 245 Freight Street.

- 4) For used surface finishing chemicals received on MacDermid's carriers and off-site MacDermid facilities, the load will be transported to the Quality Control area for spot testing. Used surface finishing chemicals received from independent carriers will be spot tested on the East Aurora Street warehouse dock. Based on the results of these tests (see Section 5.4.1), the waste load will either be transported to the appropriate storage area and stored on 42" x 42" pallets (except totes) or

rejected and returned to the customer/off-site MacDermid facility.

- 5) Drivers of independent carriers will be instructed to receive their completed paperwork (manifest) from the shipping/receiving office when the load is unloaded and accepted for storage.
- 6) Drivers of MacDermid vehicles will be instructed to leave their paperwork (manifest) at the shipping/receiving office. The manifest will be completed only after the load has been accepted for storage (see Section 5.4).
- 7) Any spills or leaks from the containers will be cleaned up, as soon as they are detected, and the area decontaminated.

B. Loading

The specific procedures for loading container shipment material at the East Aurora Street warehouse are as follows:

- 1) The transfer truck will enter the facility through the south end receiving gate on East Aurora Street and will be directed by warehouse personnel to the proper loading area. The warehouse

personnel will then inspect the load to make sure all containers are in good condition and properly marked and labelled.

- 2) The material within any damaged container will be transferred to an approved container or any damaged container will be transferred to an overpack container and in either case will be sealed and properly labelled prior to being loaded onto the truck.
- 3) When the truck is loaded, the driver will be instructed to receive his completed paperwork (manifest) from the Traffic Office.
- 4) Any spills or leaks from the containers will be cleaned up, as soon as they are detected, and the area decontaminated.

4.1.1.3 Loading Operations for Roll-Off

The specific procedures for loading the 26 cubic yard roll-off of dewatered metal hydroxide/sulfide sludge are as follows:

- All trucks will enter the site via the Huntingdon Avenue gate. To obtain access through this locked gate, the driver will activate the bell in the manufacturing area to contact the manufacturing personnel. Upon entering the site, the driver will be directed to the roll-off storage

area. The entrance gate will be closed by the manufacturing personnel.

- Prior to actual loading the roll-off onto the truck, the manufacturing personnel will inspect the roll-off to make sure the tarp is securely attached.
- When the truck is loaded, the driver will be instructed to receive his completed paperwork (manifest) from the shipping/receiving office.

4.1.1.4 Loading Satellite Storage Containers

At the MacDermid, Inc. Huntingdon facility, satellite storage containers are stored in the combustible storage area (one 55-gallon drum) and the flammable material storage area (a maximum of two 55-gallon drums). The specific procedures for transferring waste into the satellite storage drums are as follows:

- 1) Prior to emptying the contents into the 55 gallon satellite drum, the laboratory technician will verify that the 55 gallon drum is in sound condition (e.g. no dents, bung is not missing, etc.) and properly marked with hazardous waste and DOT warning labels.
- 2) To eliminate spillage, a funnel will be used with all transferring operations.
- 3) Following the addition or removal of waste, the bung will be replaced and leaks/spills will be cleaned up, and the area decontaminated.

- 4) When the satellite storage container in the combustible storage area is full, it will be moved to the flammable material storage area and date added to hazardous waste label

4.1.2 Specific Container Storage Areas

4.1.2.1 Waste Acceptance

Based on the compatibility review and studies performed at this facility (see Section 5.5), the waste streams to be accepted in containers and stored in each designated area are compatible. However, to insure that the wastes delivered and generated on-site can be managed at this facility (listed under the Part A application) and are compatible with other wastes, the monitoring procedures and compatibility review process described under Sections 5.4 and 5.5 of the Waste Analysis Plan will be followed.

4.1.2.2 Facility Operation - Specific Container Storage Areas

MacDermid, Inc. stores containers in four (4) areas at the Huntington Avenue facility. Movement of containers is by means of the equipment shown in Appendix G.

1) Main Container Storage Area

The main container storage area, which is located on the north side of the East Aurora Street warehouse (see Figure 2.1), has been

designed to allow for storage of 77,000 gallons of aqueous waste material. No virgin chemicals are stored in this area. The storage containers utilized in this area include 55 gallon plastic or steel drums, (a maximum of 1,400 assuming no storage totes are stored in the area) and 330 gallon storage totes (maximum of 20).

The main container storage area located within a totally enclosed warehouse, measures approximately 42' wide by 93' long. Secondary containment (see Figure 4.1), is provided by means of; an epoxy coated concrete floor that is free of cracks and gaps; 3½" high concrete berm located along the south and east sides of the storage area; concrete block building walls; and a collection sump that is connected to the industrial waste water treatment system.

All containers within this building (except storage totes) are stored on 42" x 42" wooden pallets on metal racks to minimize corrosion effects that could occur if the drums were in physical contact with the floor and/or any spilled materials. The storage totes which are

**US EPA New England
RCRA Document Management System
Image Target Sheet**

RDMS Document ID # 100863

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Facility ID#: CTD001164599

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☒ **Oversized (in Site File)** ☐ **Oversized (in Map Drawer)**

☐ **Page(s) Missing (Please Specify Below)**

☐ **Privileged** ☐ **Other (Provide Purpose Below)**

Description of Oversized Material, if applicable:

FIGURE 4.1: MAIN CONTAINER STORAGE AREA

☒ **Map** ☐ **Photograph** ☐ **Other (Specify Below)**

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designed for fork-lift handling (see Figure 2.2) are stored directly on the floor.

Containers on pallets are not stacked on top of one another. All containers are stored on pallets one high only and placed on a five high tier metal rack. Each five tier metal rack stores two pallets side by side in rows that are 6'9" feet wide to provide MacDermid personnel easy access for inspection and handling.

The type of forklift utilized in the storage area is "guided" through the aisles by a system known as Portec Wire Guidance (see Appendix G). This system electronically controls the direction of the fork truck. With this system, there is little or no potential for a forklift to accidentally hit a rack. This system is utilized throughout the warehouse storage area. Placement of pallets on racks is accomplished with manually operated lifts.

Any spillage within this area as stated previously, will be retained by virtue of the concrete floor, walls of the building, concrete berm, and the collection sump. The collection sump which has a 200 gallon capacity is

equipped with a manually operated control valve that is normally kept closed. All collected waste within this sump is visually/chemically inspected by MacDermid personnel (see Section 5.0). If compatible with the industrial waste water treatment system, all collected waste is discharged to the industrial waste water treatment system. Waste which is not compatible with the waste water treatment system is transferred into 55 gallon drums and disposed of off-site at a permitted facility for final treatment and disposal.

Small volumes of liquids (less than 55 gallons) accumulated in the secondary containment area and not collected in the sump will be absorbed with either a clay based material or soda ash and placed in a clean, 55 gallon drum. A sample of this material will be tested as described in Section 5.0 of the Waste Analysis Plan to determine proper manifesting information. The drum will then be properly labelled, marked and stored until final disposition.

2) The Combustible Storage Area

The combustible storage area is located on the south side of the Gear Street building (Figure 2.1) and has been designed to allow for the storage of 4,290 gallons of aqueous waste materials. No virgin chemicals are stored in this area. The storage containers utilized in this area include a maximum of fifty four 55-gallon plastic or steel drums and four 330-gallon storage totes. Included in this storage volume, is the one 55-gallon satellite drum used to store flammable wastes generated from the surrounding work areas. When this drum is full, it is transferred to the flammable material storage area.

Secondary containment for this 24' x 24' area (see Figure 4.2) is provided by means of an epoxy concrete floor, building walls and 3" high epoxy coated angle iron berms. The angle iron berms are anchored to the concrete floor with 3/8" steel studs.

All 55 gallon containers within this area are stored on wooden pallets, a maximum of two high. The storage totes (330 gallon containers) are stored one high.

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Image Target Sheet**

RDMS Document ID # 100863

Facility Name: MACDERMID INC

Facility ID#: CTD001164599

Phase Classification: R-1B

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FIGURE 4.2: COMBUSTIBLE STORAGE AREA

☒ **Map** ☐ **Photograph** ☐ **Other (Specify Below)**

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To provide MacDermid personnel easy access for inspection and handling, each row of 55 gallon drums (one pallet deep) and storage totes are separated by two 4.5 foot wide aisles.

Tote movement is performed using a fork lift. Pallet movement is performed using a hand truck. The area is set up so that any pallet can be moved with use of a hand truck without having to move other pallets (see Figure 4.2). The turning radius of a hand truck is such that pallets can be easily removed. The movement of the totes requires a fork lift. On some occasions, due to space restraints, pallets will have to be moved first to obtain access to totes.

Any spillage within this area will be retained by virtue of the concrete floor, walls of the building and berms which are free of any cracks or gaps.

Small volumes of liquids (less than 55 gallons) accumulated in the secondary containment area will be absorbed with a clay based material and placed in a clean, 55 gallon drum. A sample of this material will be

tested as described in Section 5.0 of the Waste Analysis Plan to determine proper manifesting information. The drum will then be properly labelled, marked and stored until final disposition.

Large volumes of liquids (more than 55 gallons) will be pumped into either 55 gallon drums or 330 gallon totes. A sample of this material will be tested as described in Section 5.0 of the Waste Analysis Plan to determine proper manifesting information. The drum(s) or storage tote will then be properly labelled, marked and stored until final disposition.

3. Flammable Material Storage Area

The flammable material storage area is located on the northeastern side of the Gear Street building (see Figure 2.1) and has been designed to allow for the storage of sixteen 55 gallon containers or 880 gallon of flammable waste. Included in this storage volume are the one to two 55 gallon satellite storage drums which may be stored in this area. No virgin chemicals are stored in this area.

This area is equipped with the required Class 1, Group B explosion proof lighting and similar appurtenances in accordance with NFPA to prevent explosion.

The flammable storage area, located within a totally enclosed building, measures 8'1" wide by 10'0" long. Secondary containment is provided by means of an epoxy concrete floor, and a 4" high epoxy coated angle iron berm which completely surrounds the storage area (see Figure 4.3). Located outside the bermed area and within the facility building is a floor trench that drains to the industrial waste water treatment system.

All storage containers within this area are stored on wooden pallets, one high. The two rows of pallets are maintained two (2) feet apart to allow for inspection.

Any spillage within this storage area will be retained by virtue of the concrete floor and epoxy coated angle iron berms. All waste collected within this storage area will be transferred to 55 gallon drums and shipped off-site to a permitted facility for final treatment and disposal.

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Description of Oversized Material, if applicable:

FIGURE 4.3: FLAMMABLE MATERIAL

☒ **Map** ☐ **Photograph** ☐ **Other (Specify Below)**

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Small volumes of liquids (less than 55 gallons) accumulated in the secondary containment area will be absorbed with a clay based material and placed in a clean, 55 gallon drum. A sample of this material will be tested as described in Section 5.0 of the Waste Analysis Plan to determine proper manifesting information. The drum will then be properly labelled, marked and stored until final disposition.

Large volumes of liquids accumulated in the secondary containment area will be pumped into clean 55 gallon drums or storage totes. A sample of this material will be tested as described in Section 5.0 of the Waste Analysis Plan to determine proper manifesting information. The drum(s) or storage tote(s) will then be properly labelled, marked and stored until final disposition.

4. Metal Hydroxide/Sulfide Sludge Storage Area

The dewatered metal hydroxide/sulfide sludge generated from MacDermid's industrial waste water treatment system is stored in a single 26 cubic yard roll-off equipped with a drop-in liner. This roll-off is housed in the

building located directly south of the Huntingdon Avenue gate (see Figure 2.1).

To dewater the sludge at MacDermid, Inc., a filter press, which is stationed directly above the 26 cubic yard roll-off, is used. At the end of each filtering cycle, all dewatered sludge is discharged directly into the roll-off. The roll-off container is shipped off-site to a permitted facility for final treatment/disposal when full.

Any spillage of dewatered sludge within this area is placed into the roll-off using brooms and shovels. Any spillage of free liquid within this area will be retained by the area's concrete floor, building walls and berm located in front of the garage door and will be discharged to the industrial waste-water treatment system via the floor trench. A layout of this storage area is provided as Figure 4.4.

An elevation drawing is provided as Figure 4.5.

4.1.3 Container Specifications

In order to minimize the possibility of leaks, spills, or discharges of materials accepted or shipped off-site, all containers received at or used by MacDermid must be of adequate

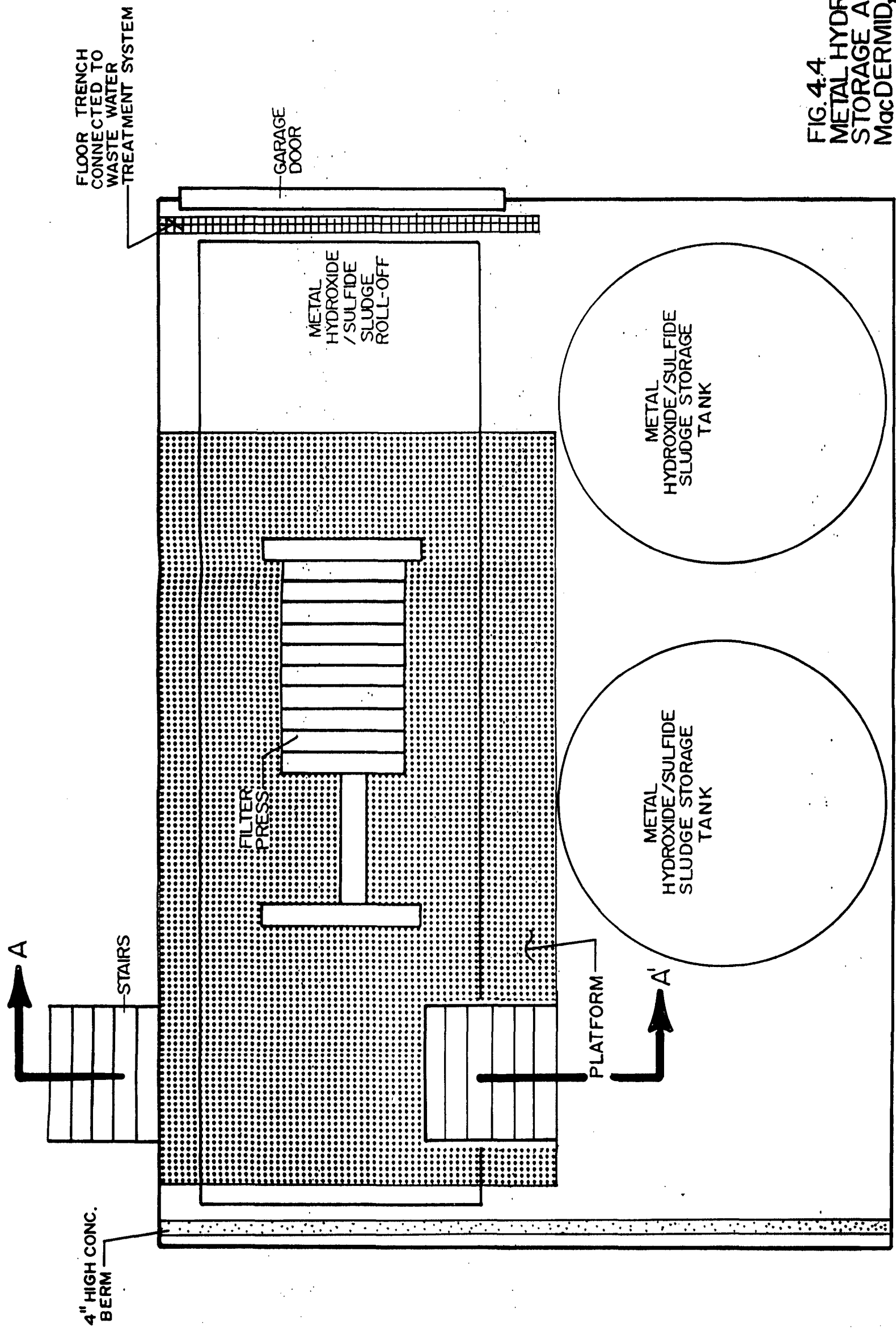


FIG. 4.4
 METAL HYDROXIDE / SULFIDE SLUDGE
 STORAGE AREA
 MacDERMID, INC.
 526 HUNTINGDON AVE.
 WATERBURY, CT.
 SCALE 3/8"=1'
 PB-MAN-Ø 10-88

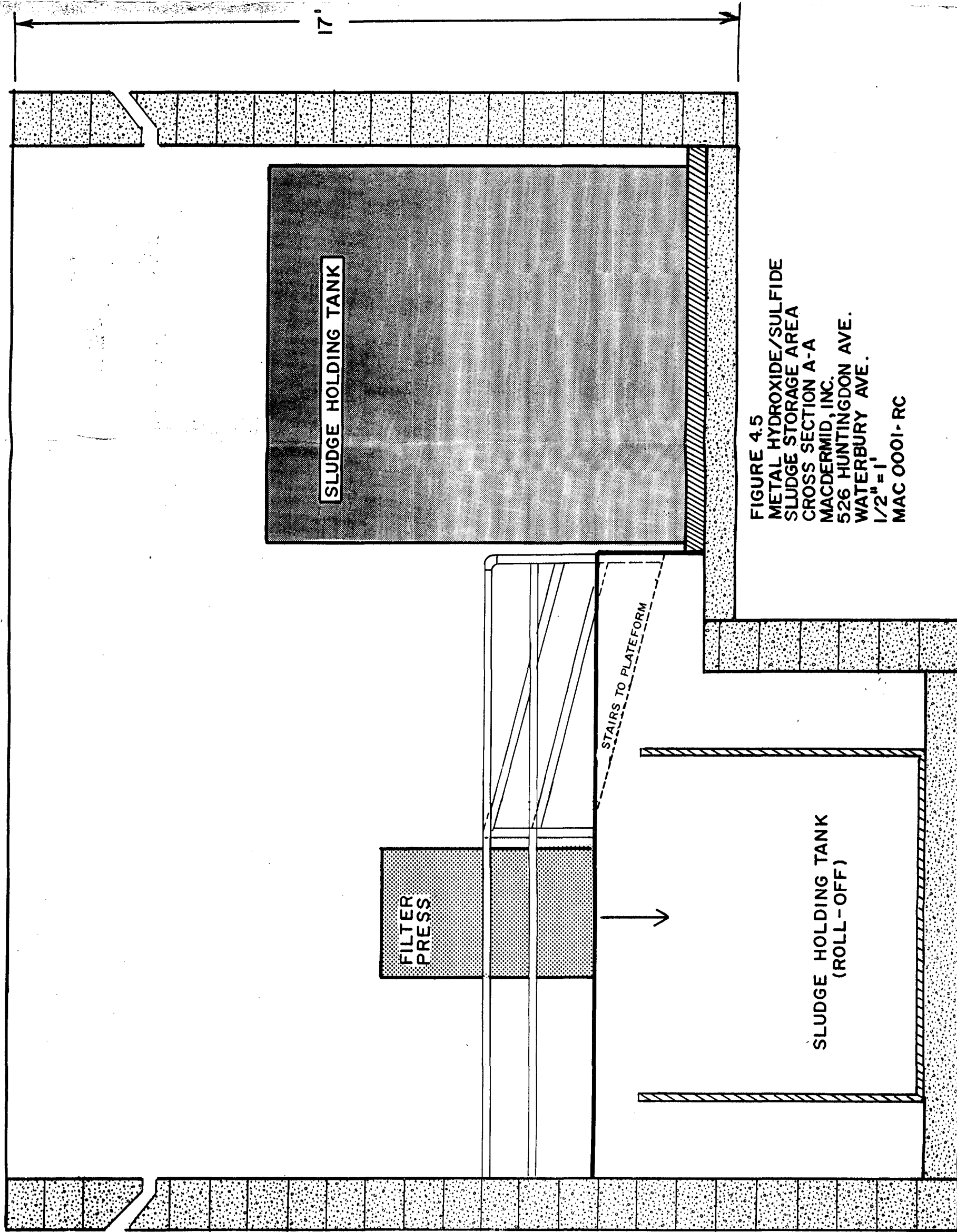


FIGURE 4.5
 METAL HYDROXIDE/SULFIDE
 SLUDGE STORAGE AREA
 CROSS SECTION A-A
 MACDERMID, INC.
 526 HUNTINGDON AVE.
 WATERBURY AVE.
 1/2" = 1'
 MAC 0001-RC

design and composition, and comply with the U.S. DOT packaging requirements found in 49 CFR 173 and 178. Table 5.6 details the type of container used for each waste and labeling practices. It should be noted that containers may be reused. After each use, they are emptied completely and triple rinsed.

4.1.4 Compatibility of Wastes - Container Storage Areas

Only compatible wastes will be stored with in the various container storage areas at MacDermid. As a basis for determining compatibility, MacDermid personnel will use procedures described under Section 5.5 of the Waste Analysis Plan.

4.1.5 Inspection - Container Storage Area

All containers will be inspected prior to storage to assure that all bungs are tightly sealed and that no drums are leaking. Individual drums will be checked for leaks. Any leaking drum will be removed and its contents will be transferred to a new drum. The floor and berm will also be inspected on a weekly basis to identify any deterioration of the epoxy finish.

4.1.6 Container Labelling

All containers used to store hazardous and non-hazardous wastes will be labelled with a "Hazardous Waste" and "Non-Hazardous Waste" sticker respectively as soon as the first drop of waste is added to the container. Examples of these labels are provided on Figure 4.5A. Included on these labels will be MacDermid's name, address, 3 digit identification number, and date of accumulation. If the container is not filled

HAZARDOUS WASTE
FEDERAL LAW PROHIBITS IMPROPER DISPOSAL

IF FOUND, CONTACT THE NEAREST POLICE OR PUBLIC SAFETY AUTHORITY
OR THE U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERATOR'S NAME _____

ADDRESS _____ CITY _____ STATE _____ ZIP _____

MANIFEST DOCUMENT NUMBER _____ EPA
ID # _____

EPA/DOT
SHIPPING NAME _____

DATE OF GENERATION/ACCUMULATION _____

HANDLE WITH CARE—THIS CONTAINER IS DANGEROUS AND CONTAINS
HAZARDOUS OR TOXIC WASTE

IT IS RECOMMENDED THAT IF THIS LABEL WILL
BE AFFIXED TO ANY CONTAINERS WHICH ARE
TO BE EXPOSED TO THE ELEMENTS FOR ANY
SUSTAINED PERIOD OF TIME, THAT EACH LA-
BEL BE PERMANENTLY COVERED WITH LABEL-
GARD TAPE.

IN THE EVENT OF A SPILL OR RELEASE OF
THIS HAZARDOUS WASTE, CONTACT THE U.S.
COAST GUARD NATIONAL RESPONSE CENTER
AT 800-424-8802 FOR INFORMATION AND AS-
SISTANCE.

UNZCO 190 Baldwin Ave., Jersey City, N.J. 07306 • (800) 631-3098 • NJ (201) 795-5400 Form 40-905R

NON-HAZARDOUS

COMPANY NAME _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

CONTENTS _____

WASTE

QUICK WAY STAFUT, INC. P.O. BOX 1066, MUSKEGON, MICHIGAN 49443
616-722-2044 616-739-8950

FIGURE 4.5A
HAZARDOUS WASTE AND
NON-HAZARDOUS WASTE
LABELS
MACDERMID, INC.
526 HUNTINGDON AVENUE
WATERBURY, CT

on the same day accumulation begins, a second date will be added to note when the drum is full. This second date will also indicate when the full container was transported to its respective storage area. The type of DOT label to be used for each waste stream is provided under Table 5.6.

4.2 Tank Storage

Bulk wastes handled at MacDermid, Inc. are primarily received from off-site customers and MacDermid facilities for the recycling operation, however, on occasion, bulk loads from on-site process/manufacturing operations may be generated.

4.2.1 Bulk Loading/Unloading

The bulk loading/unloading area is located within the building in the northwestern corner of the Huntingdon Avenue plant. All material transfer at the bulk loading/unloading area (see Figure 2.1) is carried out with extreme care and caution so as to minimize the occurrence of leaks or discharges from truck fittings and related storage tank structures. During loading and unloading, an operator will be present at all times to insure that an overflow of waste does not occur.

A. Unloading

The specific procedures for unloading bulk shipment material are as follows:

- All bulk material will be delivered on-site via the Huntingdon Avenue gate. To obtain access through this locked gate, the driver will activate the bell in the manufacturing area to contact manufacturing personnel. Upon entering the site, the driver will be directed to the bulk loading/unloading area.

The entrance gate will be closed by manufacturing personnel.

- The truck will be gauged and sampled as necessary in accordance with the procedures specified in the Waste Analysis Plan (see Section 5.0).
- Prior to actual unloading, the manufacturing personnel will determine tank storage capacity by noting the external site gauge located on each tank (see Operating Logs in Section 11.0) to determine if the contents of the truck will fit into the tank(s) being pumped into (prevent overflowing of any tank).
- Each bulk tank is equipped with a visual and audible high level alarm which sounds at a designated liquid level to warn the operators to discontinue unloading activities.
- To unload, MacDermid utilizes air pressure generated by a 75 horsepower pump. The pump is equipped with a regulator set at 30 psi, but in general only 20 psi is necessary to unload a truck.
- Any spills or leaks from the truck discharge piping would be contained within the unloading area trench and sent to wastewater treatment.
- When the truck is unloaded, the driver will be instructed to receive his completed paperwork (manifest) from the traffic department.

B. Loading

- All trucks for bulk pick-up will enter the site via the Huntingdon Avenue gate. To obtain access through this locked gate, the driver will activate the bell in the manufacturing area to contact the manufacturing personnel. Upon entering the site, the driver will be directed to the bulk loading/unloading area. The entrance gate will be closed by the manufacturing personnel.
- Prior to actual loading, the manufacturing personnel will determine tank storage capacity by noting the external site gauge located on each tank (see Operating Logs in Section 11.0) to determine the quantity of material available for transfer.

- To load the tank trucks, MacDermid utilizes centrifugal pumps.
- Any spills or leaks from the truck discharge piping would be collected in the loading area trench and sent to wastewater treatment.
- When the truck is loaded, the driver will be instructed to receive his completed paperwork (manifest) from the traffic department.

4.2.2 Storage Tanks

At MacDermid, Inc.'s Huntingdon Avenue facility, wastes are stored in four above ground tanks located on the west side of the Processing Area building (Figures 4.6, 4.7 AND 4.7A). Each storage tank is used to store spent copper etch (alkaline based material) designated for recycling. The total storage capacity provided by the three 8,000 gallon FRP tanks and one 5,000 gallon FRP tank is 29,000 gallons.

Secondary containment for these tanks is provided by an epoxy coated concrete floor, building walls and 2'7" high block walls located at both entrance ways. Any significant spills from these tanks would be discharged to one of two 60,000 gallon holding tanks associated with the wastewater treatment system via the collection sump. For protection against deterioration due to spillage of waste, the block walls and building walls have also been epoxy coated. The concrete floor is free of cracks or gaps.

Secondary containment calculations are provided under Section 9.0 of this application.

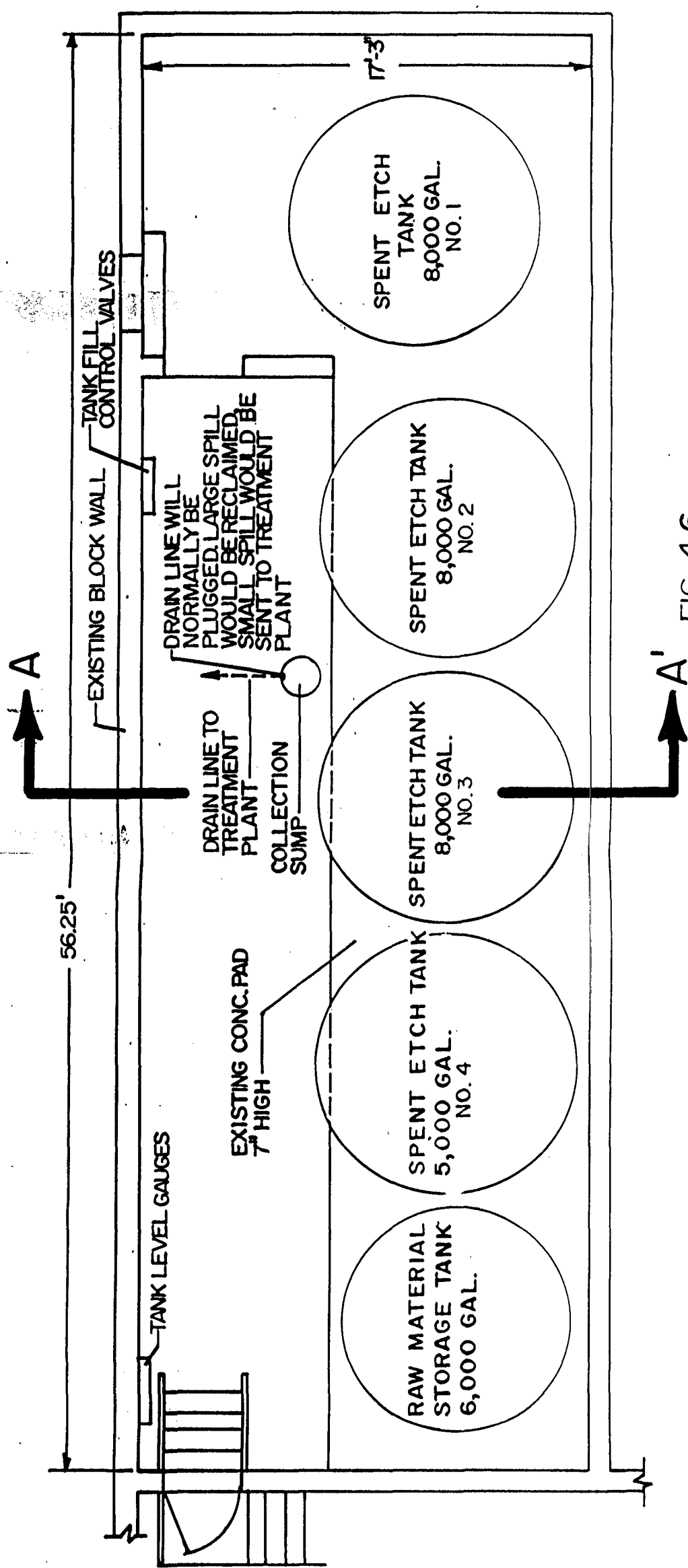


FIG. 4.6
WASTE STORAGE TANKS
MACDERMID, INC.
526 HUNTINGDON AVE
WATERBURY, CT.
APPROX. SCALE-1"=5'
PB-MAN-Ø 10/88

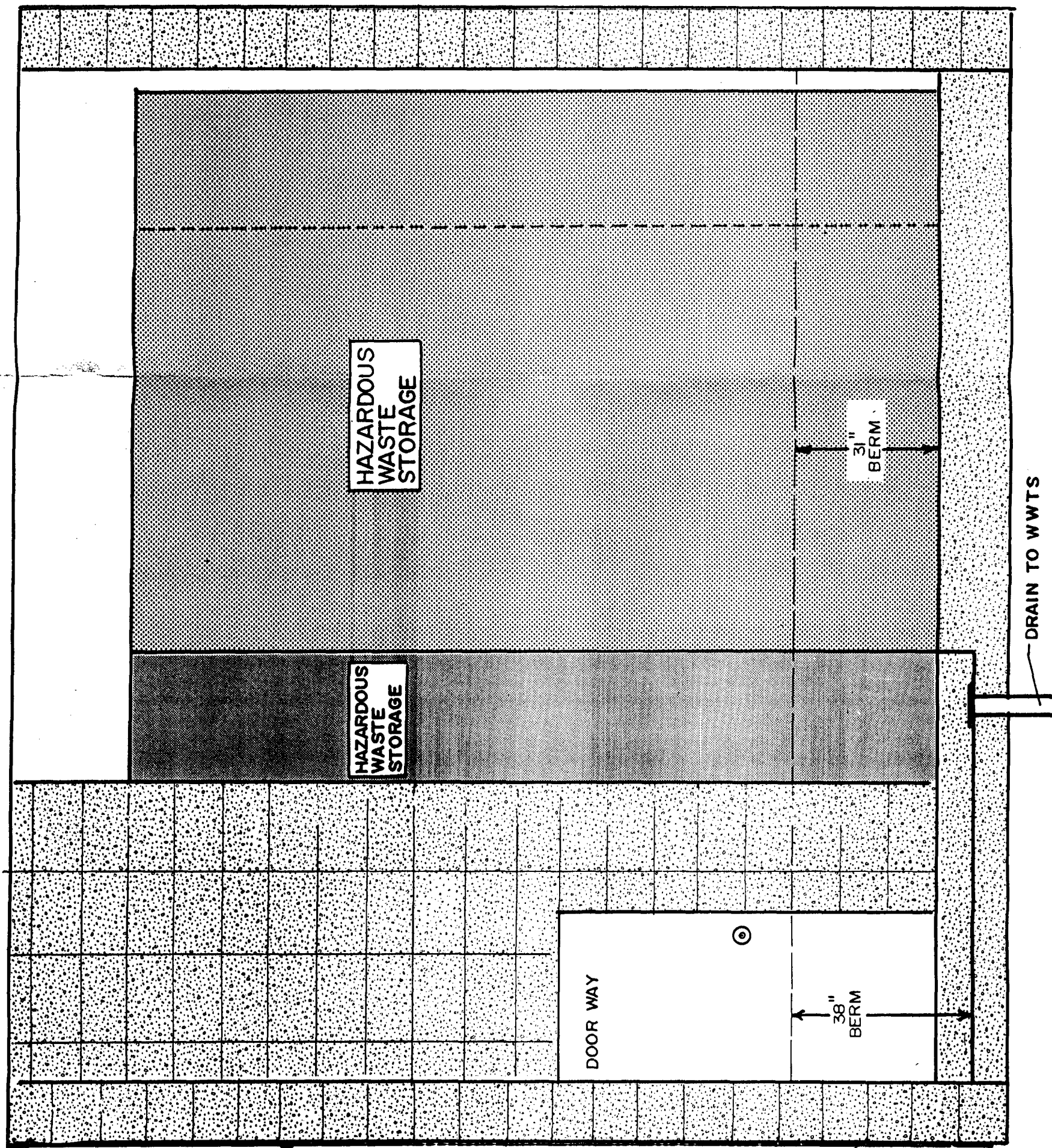


FIGURE 4.7
HAZARDOUS WASTE
STORAGE TANKS
CROSS SECTION A-A
MACDERMID, INC.
526 HUNTINGDON AVE.
WATERBURY, CT.
1/2" = 1'
MAC-0001.RC.

PRESSURE WASHER
SOAP DRUMS

SUPPLY CABINETS
(NO CHEMICALS)

PRESSURE
WASHER
CABINET

LOCKERS

2" X 2" X 2"
COLLECTION
SUMP (NO OUTLET)

12" WIDE
LOADING
UNLOADING
BAY DOORS

4" WIDE TRENCH TO WASTEWATER
TREATMENT SYSTEM

"SPEED"
BUMP
(3 1/2" H X 3' W)

65'

FIGURE 4.7A
BULK LOADING/UNLOADING AREA
MACDERMID, INC.
526 HUNTINGDON AVE.
WATERBURY, CT.
MAC-0001-RC
N.T.S. B/R

4-32 (R-5/10/90)

TO
BULK
TANKS

HRP

ASSOCIATES, INC.

4.2.3 Compatibility of Wastes

The spent copper etchant has been evaluated and has been determined to be compatible with FRP. The basis of evaluation is determined from the chemical resistance chart provided in Appendix H and, also, MacDermid's knowledge and experience the storage of chemical reagents.

4.2.4 Tank Inspections

At least once each operating day, the level in each tank will be either measured (external sight gage), or verified from previous readings, if no discharges have been made from the particular tank. The tank levels will be recorded in the Operating Record.

This log of tank levels will be utilized prior to the acceptance or removal of material to verify adequate capacity in the tank or truck for said acceptance. This will preclude the possibility of overfilling the tanks or trucks.

At least once each week, the exterior of each tank will be visually inspected to detect corrosion, erosion, cracks and leakage from seams and fixtures. The immediate area surrounding the tanks will also be inspected weekly to detect obvious signs of leakage. The results of these inspections will be entered into the Operating Record. Any leaking tank will be emptied and its contents will be transferred to a new tank. The floor and block wall will also be inspected on a weekly basis to identify any deterioration of the epoxy finish.

All tanks are equipped with access manholes to facilitate internal inspections, as necessary.

4.2.5 Tank Filling and Transfer Procedures

All bulk storage tanks are filled by attaching a hose from the tanker truck to the storage tank feed piping, and then pumping the truck contents into the appropriate storage tank using compressed air. Each tank is equipped with an external sight tube that is visible from the fill control valves so that the operator can determine when to switch to an empty tank during filling operations, so as to prevent overfilling.

In addition, level gauges for each tank are located at the entrance to the bulk storage room for operator reference.

Transfer of spent copper etch to processing operations is via a portable pump, which is connected to individual tanks by hose, as necessary. Since piping on each tank is independent of the others, rupture of one tank would not affect the piping on other tanks.

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Facility Name: MACDERMID INC

Facility ID#: CTD001164599

Phase Classification: R-1B

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Purpose Below)**

CONFIDENTIAL BUSINESS INFORMATION

Description of Oversized Material, if applicable:

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☐ **Map** ☐ **Photograph** ☒ **Other (Specify Below)**

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**US EPA New England
RCRA Document Management System
Image Target Sheet**

RDMS Document ID # 100863

Facility Name: MACDERMID INC

Facility ID#: CTD001164599

Phase Classification: R-1B

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☐ **Page(s) Missing (Please Specify Below)**

☐ **Privileged** ☒ **Other (Provide
Purpose Below)**

CONFIDENTIAL BUSINESS INFORMATION

Description of Oversized Material, if applicable:

CONFIDENTIAL BUSINESS INFORMATION

☐ **Map** ☐ **Photograph** ☒ **Other (Specify Below)**

CONFIDENTIAL BUSINESS INFORMATION

*** Please Contact the EPA New England RCRA Records Center to View This Document ***

4.4 Transporting Containers

All containers at the MacDermid facility containing waste will be stored on-site only within designated storage areas. From these areas, the containers will be transported to the recycling production area for processing or to the shipping area to be disposed of off-site. The specific procedures for transporting containers to processing areas are as follows:

- The warehouse personnel will inspect all containers to make sure all containers are in good condition and properly marked and labelled prior to being transported to the recycling area.
- The material within any damaged container will be transferred to an approved container, sealed, and properly labelled prior to being transported to the recycling area.
- Upon approval from warehouse personnel, each drum will be transported to the container recycling area by an experienced operator using a barrel grabber or forklift. With the forklift, a maximum of four 55 gallon drums on a wooden pallet will be moved at a time. All container transporting will be performed on concrete surfaces.
- Following actual container transporting, any spills or leaks from the containers will be cleaned up, and the area decontaminated.

4.5 Manifest Processing

All incoming shipments of hazardous waste to MacDermid, Inc. must be accompanied by a properly completed manifest form whether or not the waste is hazardous. All outgoing shipments of hazardous waste from MacDermid are accompanied by a properly completed manifest.

MacDermid, Inc. will review all manifests prior to acceptance of the shipment to assure proper completion and that MacDermid, Inc. has been designated by the generator to receive the material. MacDermid, Inc. will review all manifests prior to an outgoing shipment leaving the facility to insure proper completion.

Upon acceptance of a waste shipment, MacDermid, Inc. will sign and date the manifest to indicate receipt of said shipment. Any significant manifest discrepancies will be noted on the manifest form (refer to Section 5.0, Waste Analysis Plan and Section 4.2, Manifest Discrepancy).

4.5.1 Manifest Completion

A properly completed manifest would include the following information:

- Generator Name/Address/ID No./Telephone number
- Transporter(s) Name/Address/ID No./Telephone Number
- Hazardous Waste Facility Name/Address/ID No./ Telephone Number
- Type of Waste
- Type of Container
- Amount of Waste
- Waste Description
- Special Handling Instructions
- All appropriate DOT, EPA and UN/NA codes

4.5.2 Manifest Distribution

For wastes received at MacDermid, Inc. accompanied by the Uniform Manifest Form, the eight (8) copies must be distributed as follows:

Copy 1: When the manifest is completed by MacDermid, MacDermid mails this copy to the State of Connecticut.

Copy 2: When MacDermid has completed the facility section of the manifest, MacDermid mails this copy to the State where the waste was generated.

- Copy 3: When MacDermid has completed the facility section of the manifest, MacDermid mails this copy back to the Generator, who must retain it on-site for his records, within 15 days after the delivery of the waste.
- Copy 4: When MacDermid has completed the facility section of the manifest, MacDermid keeps this copy for their records.
- Copy 5: When the transporter has completed the transporter section of the manifest, and transfers the waste to MacDermid, MacDermid returns this portion to the transporter who keeps this copy for his records.
- Copy 6: When the generator has completed the generator section and transfers his waste to the transporter, he mails this copy to the State of Connecticut.
- Copy 7: When the generator has completed the generator section of the manifest and transfers his waste to the transporter, he mails this copy to the State where the waste was generated.
- Copy 8: When the generator has completed the generator section of the manifest, the transporter has completed his section and the generator has transferred his waste to the transporter, he keeps this copy for his records.

For wastes generated by MacDermid accompanied by the Uniform Manifest Form, the eight (8) copies will be distributed as follows:

- Copy 1: When the manifest is completed by the TSDF, the TSDF mails this copy to the State where the TSDF is located.
- Copy 2: When this TSDF has completed the facility section of the manifest he mails this copy to the State of Connecticut.
- Copy 3: When the TSDF has completed the facility section of the manifest he mails this copy back to MacDermid within 15 days of delivery. MacDermid must retain this copy on site for three (3) years.
- Copy 4: When the TSDF has completed the facility section of the manifest, the TSDF retains this copy.

- Copy 5: When the transporter has completed the transporter section of the manifest, and transfers the waste to the TSDF, the transporter retains this copy.
- Copy 6: When MacDermid has completed the generator section and transfers the waste to the transporter, MacDermid mails this copy to the TSDF State.
- Copy 7: When MacDermid has completed the generator section of the manifest and transfers the waste to the transporter, MacDermid mails this copy to the State of Connecticut.
- Copy 8: When MacDermid has completed the generator section of the manifest, the transporter has completed his section and MacDermid has transferred his waste to the transporter, MacDermid retains this copy for their records.

4.5.3 Exception Reporting

MacDermid retains copies 3 and 8 on file for a minimum of three (3) years. If copy 3 is not received from the TSDF within fifteen (15) working days of the date the waste was accepted by the initial transporter, MacDermid will contact the transporter and/or the designated TSDF to determine its whereabouts. If copy 3 is not received within twenty (20) working days, MacDermid will submit an Exception Report to the State of Connecticut. This report will include a legible copy of the manifest in question and a signed cover letter detailing MacDermid's efforts to relocate the hazardous waste.

4.5.4 Transporter Requirements

All transporters bringing waste to, or taking waste from MacDermid will possess an EPA ID Number, have the required insurance and be permitted in Connecticut. For outgoing

shipments MacDermid will ensure the transporter is permitted in the receiving state and all intermediate states.

4.6 Manifest Discrepancy

A discrepancy results when the following types of events occur:

1. The number of containers on a shipment does not match (by count) the number of containers listed on the manifest accompanying the shipment;
2. The shipment includes containers that are labelled differently from the identification numbers shown on the manifest;
3. Any of the containers is damaged or leaking;
4. The size of the containers that arrive are different from the size stated on the manifest;
5. Proper and/or correctly filled out paperwork does not arrive with the shipment;
6. Container packaging and/or labelling is not per U.S. DOT specifications;
7. A bulk shipment arrives with a volume or weight discrepancy of more than 10 percent;
8. A waste arrives which fails the monitoring procedures (see Section 5.4) or is determined to be incompatible with the wastes stored on-site (see Section 5.5);
9. The shipment arrives on a date other than that indicated on the manifest.

To resolve discrepancies, MacDermid would contact the generator and, if necessary, the transporter. If the discrepancy involved errors or omissions on the manifest accompanying the shipment, they would be corrected on the manifest and noted. If the arrival piece count or volume were in error, both the transporter and generator would have to be contacted to establish the proper volumes and the reason for the discrepancy. If the waste fails the

monitoring procedures and/or is determined not to be compatible with the wastes stored on-site, the waste load will be rejected and returned to the customer or off-site MacDermid facility.

If a discrepancy is not resolved within 20 days after receipt of shipment, MacDermid would file a manifest discrepancy report with EPA and DEP describing the discrepancy, and the attempts made to resolve it including a copy of the manifest at issue. When a load of waste is rejected and a manifest discrepancy report filed as described in the Waste Analysis Plan (Section 5.0), this report must include the reasons for rejection, the ultimate disposition of the waste and a copy of the manifest that accompanied the waste.

5.0 WASTE ANALYSIS PLAN [40 CFR 264.13, 270.14 (b)(3)]

5.1 Purpose

Federal and State regulations require that all hazardous waste treatment, storage, and disposal facilities and commercial Connecticut regulated waste facilities analyze wastes prior to acceptance, and have a plan for this analysis.

This section describes the plan for sampling, testing and evaluating the wastes handled to assure sufficient information is available for the safe and proper management of all materials.

5.2 Facility Description

At the Huntingdon Avenue facility, hazardous and Connecticut regulated wastes (non-hazardous wastes) are managed in the following areas:

- Main container storage area;
- Combustible storage area;
- Flammable material storage area;
- Waste storage tanks;
- Metal hydroxide/sulfide sludge storage area;
- East Aurora Street material warehouse loading area (containers only);
- Bulk loading/unloading area; and
- Copper etchant/solder stripper/NMP recycling areas.

A detailed description of each these areas is provided under Section 4.0.

The area which is used for the collection of container samples is located adjacent to the main container storage area. This area is located approximately 160 feet from the East Aurora Street material warehouse loading Area. The East Aurora Street Loading Area is the only dock used for on-site and off-site deliveries of waste containers.

The bulk loading/unloading area is located inside the Huntingdon Avenue plant (northwestern corner). This loading/unloading area which is used for all on-site and off-site delivering of bulk waste is stationed adjacent to the area used to house the waste storage tanks.

5.3 Identification of Wastes Managed On-site

The wastes streams to be managed at MacDermid's 526 Huntingdon Avenue Facility are as follows:

- Used MacDermid metal finishing, electronic surface treatment, micro electronic and plating on plastics chemicals received from MacDermid's customers or other MacDermid facilities including MacDermid products which, due to contractual agreements are listed under a different manufacturer's name (e.g. Hubbard Hall lists MacDermid copper etchant as Hub-thane).
- Waste streams generated at MacDermid's 245 Freight Street facility located in Waterbury, Connecticut. These waste streams include by-products generated from the research and development of specialty chemicals to be used in the metal finishing, electronics, plating on plastic, surface treatment and micro electronics industries; and
- Waste streams generated on-site from the manufacturing and development of specialty chemicals to be used in the metal finishing, electronics, plating on plastic, surface treatment, micro electronics industries.

A description of each of these waste streams including their physical hazards (i.e. corrosive, ignitability, etc.), primary waste constituents, allowable concentration range, and handling method has been provided under Tables 5.1, 5.2 and 5.3. No other waste streams except those one time waste streams (e.g. raw materials with expired shelf lives) are managed at the Huntingdon Avenue Facility. The one time waste streams will be stored on-site for less than 90 days.

TABLE 5.1

**DESCRIPTION OF USED SURFACE FINISHING CHEMICALS RECEIVED
FROM CUSTOMERS OR OFF-SITE MACDERMID FACILITIES FOR RECYCLING**

MacDermid, Inc.
526 Huntingdon Avenue
Waterbury, Connecticut

EPA Hazardous Waste Number/ CT Regulated Waste Number	Material Description	Waste Constituent	Allowable ⁴ Conc. Range	Hazard	Handling Method
D002/D008	Copper Etchant	Water ² Ammonia ² Chloride ² Copper Zinc Tin Lead Iron Nickel pH ³ TOX	Balance 40-200 g/l 100-250 g/l 0-200,000 ppm 0-2,000 ppm 0-200 ppm 5-200 ppm 0-30 ppm 0-20 ppm 8-10 0-10 ppm	Corrosive Toxic	S01 & S02
D002	Solder ¹ Conditioner	Water ² Ammonium Chloride ² Hydrochloric Acid ² Fluoride Copper Iron pH TOX	500-850 g/l 60-200 g/l 80-175 g/l 0-20 ppm 0-3,000 ppm 0-500 ppm ≤2.0 0-10 ppm	Corrosive Toxic	S01

TABLE 5.1 (continued)

DESCRIPTION OF USED SURFACE FINISHING CHEMICALS RECEIVED
FROM CUSTOMERS OR OFF-SITE MACDERMID FACILITIES FOR RECYCLING

MacDermid, Inc.
526 Huntingdon Avenue
Waterbury, Connecticut

EPA Hazardous Waste Number/ CT Regulated Waste Number	Material Description	Waste Constituent	Allowable ⁴ Conc. Range	Hazard	Handling Method
CR04	NMP	Water ² NMP ² Chloride Copper TOX	0-155 g/l 850-1,050 g/l 0-250 0-250 0-10 ppm	Toxic	S01
D002/D008	Solder Stripper	Water ² Hydrogen Peroxide ² Ammonium Bifluoride ² Chloride Copper Tin Lead (soluble) Iron Nickel pH ³ TOX	Balance 0-190 g/l 90-300 g/l 0-1,000 ppm 0-8,000 ppm 2,000-75,000 ppm 5-100 ppm 0-200 ppm 0-20 ppm 3.5 to 6 0-10 ppm	Toxic	S01

TABLE 5.1 (continued)

DESCRIPTION OF USED SURFACE FINISHING CHEMICALS RECEIVED
FROM CUSTOMERS OR OFF-SITE MACDERMID FACILITIES FOR RECYCLING

MacDermid, Inc.
526 Huntingdon Avenue
Waterbury, Connecticut

EPA Hazardous
Waste Number/ CT
Regulated Waste
Number

Material Description	Waste Constituent	Allowable ⁴ Conc. Range	Hazard	Handling Method
CR04	Electroless ¹ Copper	Water ² Sodium Hydroxide ² Formaldehyde ² Chelator (EDTA) ² Copper Nickel TOX	500-1,100 g/l 0-40 g/l 0-15 g/l .5-30 g/l 0-50,000 ppm 0-20 ppm 0-10 ppm	Toxic S01

¹ Solder Conditioner and Electroless Copper are not currently recycled at the Huntingdon Avenue facility. These materials are stored on-site only.

² These constituents which are the major components of the raw products will not be analyzed for when waste shipments are received. They have been provided solely for the purpose to determine compatibility with other waste streams (see Section 5.5).

³ Meets the definition of corrosivity listed under 40 CFR 261.22(a)(2).

⁴ The used surface finishing chemicals received from customers are generated almost exclusively from printed circuit manufacturing facilities. Printed circuit manufacturing facilities do not use cyanide plating baths, therefore, cyanide has not been listed under the column "Waste Constituent".

TABLE 5.2

DESCRIPTION OF WASTES RECEIVED
FROM MACDERMID'S 245 FREIGHT STREET FACILITY

MacDermid, Inc.
526 Huntingdon Avenue
Waterbury, Connecticut

EPA Hazardous Waste Number/ CT	Material Description	Waste Constituent	Allowable Conc. Range	Hazard	Handling Method
CR04	Electroless ¹ Copper	Water ² Sodium Hydroxide ² Formaldehyde ² Chelator (EDTA) ² Copper Nickel	500-1,100 g/l 0-40 g/l 0-15 g/l .5-30 g/l 0-50,000 ppm 0-20 ppm	Toxic	S01
D002	Palladium Solution	Water ² Palladium pH	Balance 0-100,000 ppm ≤2.0	Toxic Corrosive	S01
CR04	Palladium Solution	Water ² Palladium pH	Balance 0-100,000 ppm ≥2.0-6.0	Toxic	S01
D002	Waste Nickel Solution	Water ² Nickel Lead pH	Balance 0-15,000 ppm 0-4 ppm ≤2.0	Toxic Corrosive	S01

TABLE 5.2 (continued)

DESCRIPTION OF WASTES RECEIVED
FROM MACDERMID'S 245 FREIGHT STREET FACILITY

MacDermid, Inc.
526 Huntingdon Avenue
Waterbury, Connecticut

EPA Hazardous Waste Number/ CT Regulated Waste Number	Material Description	Waste Constituent	Allowable Conc. Range	Hazard	Handling Method
CR04	Waste Nickel Solution	Water ² Nickel Lead pH	Balance 0-15,000 ppm 0-4 ppm ≥2.0-6.0	Toxic	S01
D002/F003/F005	Waste Mixed Solvents (Non-Chlorinated)	Flash Point pH Water ² Xylene Ethyl Acetate Ethyl Benzene Ethyl Ether Methyl Isobutyl Ketone n-Butyl Alcohol Cyclohexanone Methanol Toluene Methyl Ethyl Ketone Isobutanol	≥50°F 1-8 Balance This waste stream will be a mixture of these constituents, therefore, allowable concentration ranges cannot be provided.	Ignitable Toxic Corrosive	S01

TABLE 5.2 (continued)

DESCRIPTION OF WASTES RECEIVED
FROM MACDERMID'S 245 FREIGHT STREET FACILITY

MacDermid, Inc.
526 Huntingdon Avenue
Waterbury, Connecticut

EPA Hazardous Waste Number/ CT Regulated Waste Number	Material Description	Waste Constituent	Allowable Conc. Range	Hazard	Handling Method
D002/F002	Waste Mixed Solvents (Chlorinated)	Water ² Flash Point pH Tetrachloroethylene Trichloroethylene 1,1,1-Trichloroethane Chlorobenzene 1,1,2-Trichloro-1,2,2, Trifluoroethane	Balance ≥100°F 4-10	Ignitable Toxic Corrosive	S01

¹ Solder Conditioner and Electroless Copper are not currently recycled at the Huntingdon Avenue facility. These materials are stored on-site only.

² These constituents which are the major components of the raw products will not be analyzed for when waste shipments are received. They have been provided solely for the purpose to determine compatibility with other waste streams (see Section 5.5).

TABLE 5.3

DESCRIPTION OF WASTES GENERATED ON-SITE

MacDermid, Inc.
526 Huntington Avenue
Waterbury, Connecticut

EPA Hazardous
Waste Number/ CT
Regulated Waste
Number

Material Description Waste Constituent

Allowable
Conc. Range

Hazard

Handling
Method

D002/D008

Copper Etchant

Water²
Ammonia²
Chloride²
Copper
Zinc
Tin
Lead
Iron
Nickel
pH³

Balance
40-200 g/l
100-250 g/l
0-200,000 ppm
0-2,000 ppm
0-200 ppm
5-200 ppm
0-30 ppm
0-20 ppm
8-10

Corrosive
Toxic

S01

D002

Solder¹
Conditioner

Water²
Ammonium Chloride²
Hydrochloric Acid²
Fluoride
Copper
Iron
pH

500-850 g/l
60-200 g/l
80-175 g/l
0-20 ppm
0-3,000 ppm
0-500 ppm
≤2.0

Corrosive
Toxic

S01

CR04

NMP

Water²
NMP²
Chloride
Copper

0-155 g/l
850-1,050 g/l
0-250
0-250

Toxic

S01

TABLE 5.3 (continued)

DESCRIPTION OF WASTES GENERATED ON-SITE

MacDermid, Inc.
526 Huntingdon Avenue
Waterbury, Connecticut

EPA Hazardous Waste Number/ CT Regulated Waste Number	Material Description	Waste Constituent	Allowable Conc. Range	Hazard	Handling Method
D002/D008	Solder Stripper	Water ² Hydrogen Peroxide ² Ammonium Bifluoride ² Chloride Copper Tin Lead (soluble) Iron Nickel pH ³	Balance 0-190 g/l 90-300 g/l 0-1,000 ppm 0-8,000 ppm 2,000-75,000 ppm 5-100 ppm 0-200 ppm 0-20 ppm 3.5 to 6.0	Toxic Toxic	S01 S01
CR04	Electroless ¹ Copper	Water ² Sodium Hydroxide ² Formaldehyde ² Chelator (EDTA) ² Copper Nickel	500-1,100 g/l 0-40 g/l 0-15 g/l .5-30 g/l 0-50,000 ppm 0-20 ppm	Toxic	S01
D002	Acid Zinc Solution	Water ² Zinc pH	Balance 0-50,000 ppm ≤2.0	Toxic Corrosive	S01

TABLE 5.3 (continued)

DESCRIPTION OF WASTES GENERATED ON-SITE

MacDermid, Inc.
526 Huntingdon Avenue
Waterbury, Connecticut

EPA Hazardous Waste Number/ CT Regulated Waste Number	Material Description	Waste Constituent	Allowable Conc. Range	Hazard	Handling Method
CR04	Acid Zinc Solution	Water ² Zinc pH	Balance 0-50,000 ppm >2.0-6.0	Toxic Corrosive	S01
D002	Acid Copper Solution	Water ² Copper pH	Balance 0-100,000 ppm ≤2.0	Toxic Corrosive	S01
CR04	Acid Copper Solution	Water ² Copper pH	Balance 0-100,000 ppm >2-6.0	Toxic	S01
U154	Methanol	Water ² Methanol	Balance 500,000-1,000,000 ppm	Ignitable	S01
U002	Acetone	Water ² Acetone	Balance 500,000-1,000,000 ppm	Ignitable	S01
D002/F003/F005	Waste Mixed Solvents (Non-Chlorinated)	Water ² Flash Point pH	Balance ≥50°F 1-8	Ignitable Toxic Corrosive	S01

TABLE 5.3 (continued)

DESCRIPTION OF WASTES GENERATED ON-SITE

MacDermid, Inc.
526 Huntingdon Avenue
Waterbury, Connecticut

EPA Hazardous Waste Number/ CT Regulated Waste Number	Material Description	Waste Constituent	Allowable Conc. Range	Hazard	Handling Method
D002/F003/F005 (cont.)	Waste Mixed Solvents (Non-Chlorinated)	Xylene Ethyl Acetate Ethyl Benzene Ethyl Ether Methyl Isobutyl Ketone n-Butyl Alcohol Cyclohexanone Methanol Toluene Methyl Ethyl Ketone Isobutanol	This waste stream will be a mixture of these constituents, therefore, allowable concentration ranges cannot be provided.	Ignitable Toxic Corrosive	S01
D002/F002	Waste Mixed Solvents (Chlorinated)	Water Flash Point pH Tetrachloroethylene Trichloroethylene 1,1,1-Trichloroethane Chlorobenzene 1,1,2-Trichloro-1,2,2, Trifluoroethane	Balance ≥100°F 1-8 This waste stream will be a mixture of these constituents, therefore, allowable concentration ranges cannot be provided.	Ignitable Toxic Corrosive	S01

TABLE 5.3 (continued)

DESCRIPTION OF WASTES GENERATED ON-SITE

MacDermid, Inc.
526 Huntingdon Avenue
Waterbury, Connecticut

EPA Hazardous Waste Number/ CT Regulated Waste Number	Material Description	Waste Constituent	Allowable Conc. Range	Hazard	Handling Method
F006	Metal Hydroxide/ Sulfide Sludge	Copper Iron Aluminum Chromium Zinc Tin Lead Sulfur Fluoride Water	10-30% .5-10% .1-8% 0-8% .1-2% 0-1% 0-2% 4-12% 0-1% 0-55%	Toxic	S01
D002	Waste Nickel Solution	Water ² Nickel pH	Balance 0-100 g/l ≤2.0	Toxic Corrosive	S01
CR04	Waste Nickel Solution	Water ² Nickel pH	Balance 0-100 g/l >2.0-6.0	Toxic	S01
D008	Lead Fluoride Sludge	Lead Tin pH	5-1,000 g/l 0-500 g/l 5-12	Toxic	S01

TABLE 5.3 (continued)

DESCRIPTION OF WASTES GENERATED ON-SITE

MacDermid, Inc.
526 Huntingdon Avenue
Waterbury, Connecticut

EPA Hazardous Waste Number/ CT Regulated Waste Number	Material Description	Waste Constituent	Allowable Conc. Range	Hazard	Handling Method
D001	Vacuum Pump Oil/Inks	Flash Point	≤140°F	Ignitable	S01
CR02	Vacuum Pump Oil/Inks	Flash Point	>140°F	Combustible	S01

¹ Solder Conditioner and Electroless Copper are not currently recycled at the Huntingdon Avenue facility. These materials are stored on-site only.

² These constituents which are the major components of the raw products will not be analyzed for when waste shipments are received. They have been provided solely for the purpose to determine compatibility with other waste streams (see Section 5.5).

³ Meets the definition of corrosivity listed under 40 CFR 261.22(a)(2).

5.4 Waste Monitoring Procedures/Rejection Procedures

In order to ensure that MacDermid does not accept or store off-spec wastes (wastes that cannot be recycled) or wastes which are not covered by the facility permit, the following waste monitoring procedures/rejection procedures are followed.

5.4.1 Used Surface Finishing Chemicals

At the Huntingdon facility, a total of five (5) waste streams are or will be recycled on-site for future re-use by MacDermid customers. These waste streams which will be referred to as "used surface finishing chemicals" throughout this plan are:

- Copper Etchant;
- Solder Conditioner (stored on-site only at this time);
- NMP;
- Solder Stripper; and
- Electroless Copper (stored on-site only at this time).

The monitoring procedures for these waste streams are described below:

5.4.1.1 First Time Customer Waste Stream Identification

All new and existing customers returning a used surface finishing chemical to MacDermid, Inc. for recycling for the first time are required to complete the following:

- Submit a representative sample to MacDermid, Inc. for analysis;
- Collect and transport the sample in accordance with the specific procedures listed in Appendix I; and

- Sign and return the written agreement between MacDermid, Inc. and the customer (see Appendix I).

Prior to waste acceptance, the representative sample will be analyzed by MacDermid, Inc., or an off-site certified laboratory, for the key descriptive parameters listed on Table 5.1. Waste streams which do not fall within the allowable concentration ranges listed under Table 5.1 will not be accepted for recycling. Based on extensive research and experiment conducted by MacDermid, Inc., waste streams with constituent(s) above these concentration ranges cannot economically be recycled, therefore, will not be accepted.

5.4.1.2 Received Used Surface Finishing Chemicals

Upon delivery of a used surface finishing chemical from a customer or off-site MacDermid facility, a representative sample from each container and tanker will be collected and spot tested. The spot tests to be performed on each used metal finishing chemical and their allowable specifications are listed under Table 5.4. Each container or tanker of waste received from a customer or off-site MacDermid facility which does not meet the spot test's allowable specifications will either be rejected and returned to the customer or off-site MacDermid facility or analyzed for the parameters

TABLE 5.4**SPOT TESTS FOR USED SURFACE FINISHING CHEMICALS**

MacDermid, Inc.
526 Huntingdon Avenue
Waterbury, Connecticut

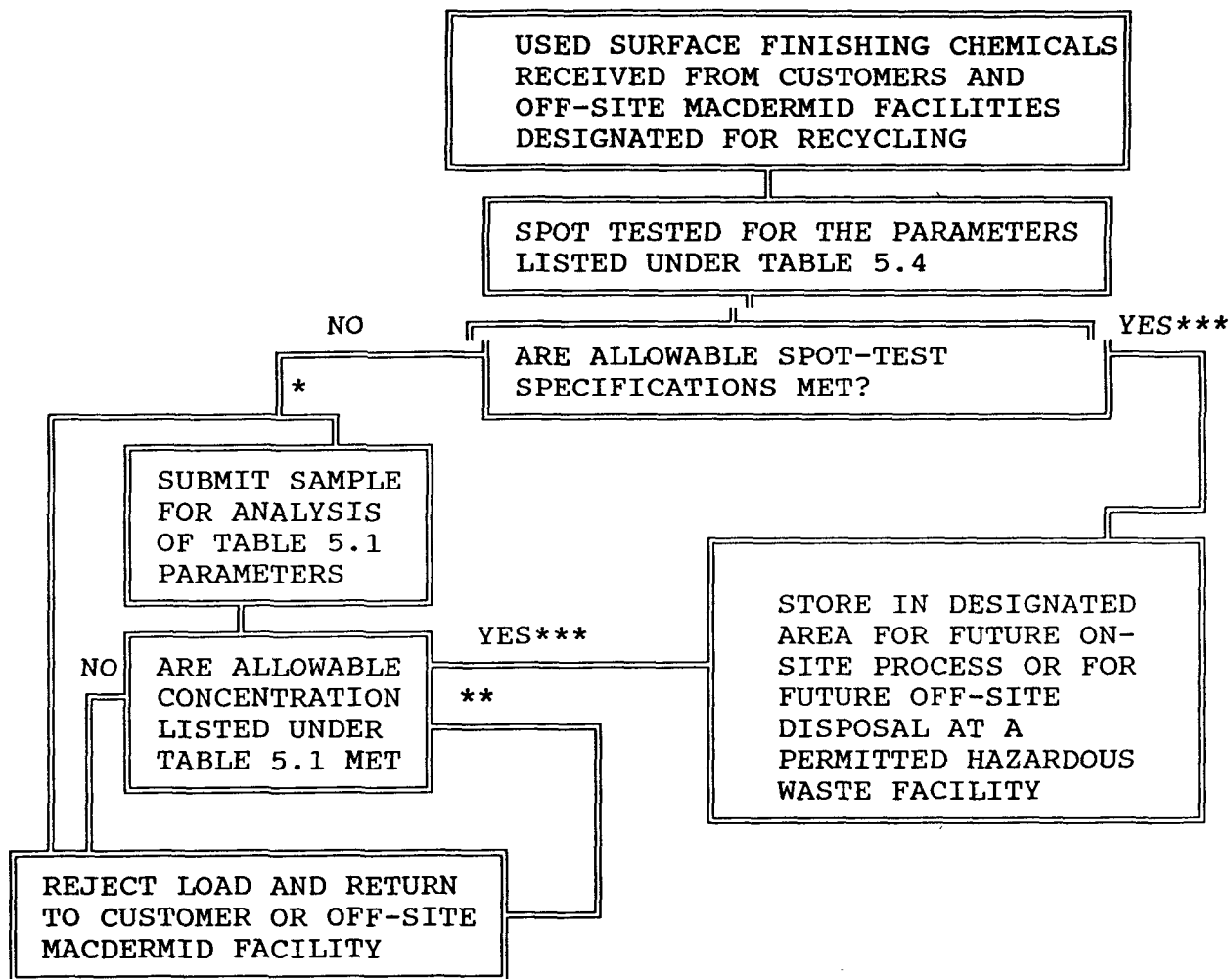
MacDermid Waste Stream/Stream Numbers	Parameter	Allowable Specifications
Electroless Copper	Appearance	Light blue, homogeneous liquid at 75°F
	pH	5-7
	Ammonia (Liberated)	Negative
Solder Conditioner	Appearance	Yellow to water white homogeneous liquid at 75°F
	pH	<3.0
	Ammonia (Liberated)	Positive
Solder Stripper	Appearance	Light brown or blue to blue- green (not green) homogeneous liquid at 75°F
	pH	3.5 to 6.0
	Ammonia (Free)	Negative
	Ammonia (Liberated)	Positive
Copper Etchant	Appearance	Deep blue homogeneous liquid at 75°F
	Specific Gravity	1.13 minimum at 75°F
	Ammonia (Free)	Positive
NMP	Appearance	Light yellow to dark brown, clear liquid with no phase separation
	Specific Gravity	1.017 to 1.037
	Refractive Index	1.4610-1.4690

listed under Table 5.1. If the results of these analyses indicate constituents are outside the allowable range of contaminants listed in Table 5.1, the waste load will be rejected and returned to the customer or off-site MacDermid facility. If these results are within the allowable range of contaminants, MacDermid, Inc. will determine, on a case-by-case basis, to accept or reject the waste load. Provided as Figure 5.1 is the flow diagram for accepting and rejecting used surface finishing chemicals received from customers and off-site MacDermid facility for recycling.

The used surface finishing chemicals generated on-site will also be subjected to the testing procedure listed above to determine if these materials can be recycled. Rejected materials will be stored in their respective storage area and disposed of off-site at a permitted facility.

5.4.2 Wastes Received from 245 Freight Street Facility (Excluding Recyclable Used Surface Finishing Chemicals)

The various waste streams to be received from the 245 Freight Street MacDermid facility are listed under Table 5.2. All wastes streams excluding the recyclable used surface finishing chemicals will be stored on-site only. When a sufficient quantity of these wastes are collected, these materials will be shipped off-site for final treatment or disposal at a



* CASE-BY-CASE DECISION TO BE MADE BY MACDERMID, INC.

** In some instances, waste streams which fall within the allowable concentration may be rejected, case-by-case decision to be made by MacDermid, Inc.

*** Under no circumstances will MacDermid accept for treatment or storage wastes which are excluded by the permit.

FIGURE 5.1

Flow Diagram for Accepting
or Rejecting Used Surface
Finishing Chemicals From
Customers and Off-Site
MacDermid Facilities

permitted hazardous waste facility. The only process operation will include the transfer of mixed solvents (non-chlorinated and chlorinated) in small container contents (5 gallon containers) to larger containers (55 gallon drum or 330 gallon tote). To eliminate any spillage, the operator will verify that the 55 gallon drum is in sound condition (e.g. no dents, bung is not missing, etc.) and will use a funnel in all transferring operations. The transfer operations will be performed within the combustible storage area and flammable material storage area only.

To ensure these materials are covered by the facility permit and can be safely stored in the designated storage area (see Section 5.5), the generator (245 Freight Street) will be required to analyze each waste stream for the parameters listed under Table 5.2. A copy of this analysis report must accompany each shipment of waste material. Prior to accepting this waste at the Huntingdon facility, the results of the analysis report will be compared to the allowable concentration ranges listed in Table 5.2. For waste streams for which allowable concentration ranges cannot be provided (e.g. mixed solvent waste streams), a review of the data will be used to determine compatibility with wastes in designated storage areas. Waste streams which exceed the allowable concentration range or are incompatible with wastes to be stored with (see Section 5.5) will be rejected and returned to MacDermid's 245 Freight Street facility.

5.4.3 Wastes Generated On-Site

The used surface finishing chemicals generated on-site which are designated for recycling will be tested as discussed under Section 5.4.1. The remaining waste streams which are designated for off-site disposal and/or treatment will be tested by designated receiving facility (TSDF) for the parameters listed under Table 5.3.

5.4.4 Spills

All large and small spills contained within the various storage areas will be analyzed immediately to determine the characteristics of the spilled waste. No waste spilled in the main container storage area, combustible storage area or the flammable material storage area will be discharged to the industrial waste water treatment system via the floor sump/trench system until the waste has been determined to be compatible with the treatment system. Any incompatible waste will be collected in 55 gallon drums, storage totes or vacuum truck for immediate off-site disposal. The parameters to be analyzed for are discussed under Section 5.7.4.

5.5 Waste Compatibility

At the Huntingdon Avenue facility, the following storage areas are employed for both hazardous and Connecticut regulated wastes:

- Main container storage area;
- Combustible storage area;
- Flammable storage area;
- Bulk storage tanks; and
- Metal hydroxide/sulfide sludge storage area.

The wastes stored in each of these areas are listed under Table 5.5. Included under Table 5.5 are also the types of containers which are used to manage each type of waste. No virgin chemicals are stored in these areas.

5.5.1 Container Compatibility

To ensure wastes are stored in compatible containers at all times, only the DOT-containers listed under Table 5.6 are used. The types of wastes which can be stored in each of these containers (according to 49 CFR Parts 100 to 199) are listed under Table 5.6.

The copper etchant waste which is stored in the FRP bulk tanks is a mixture of ammonium chloride, ammonium hydroxide, water and heavy metals (copper, iron, lead, nickel, tin and zinc). The pH of this material ranges from 7.5 to 13.0. Review of the chemical resistant chart published by Industrial Plastics, Inc. (see Appendix H) shows that ammonium chloride has no effect on FRP. Although no data is provided for ammonium hydroxide and FRP, all tested plastics have an excellent chemical resistance to ammonium hydroxide. The metal compounds such as copper sulfate, lead chloride, nickel chloride, nickel sulfate and zinc chloride are also listed as having no effect on FRP. Based on this chemical resistance data and physical examination of the FRP bulk storage tanks, the waste copper etchant is concluded to be compatible with FRP.

TABLE 5.5

WASTES STORED IN DESIGNATED AREAS

MacDermid, Inc.
526 Huntingdon Avenue
Waterbury, Connecticut

Storage Area	Waste Stream (EPA/CT-Regulated Number)	Storage Container
Main Container Storage Area	Copper Etchant (D002/D008)	55 gallon drum & 330 gallon storage tote
	Solder Conditioner (D002)	55 gallon drum
	Solder Stripper (D002/D008)	55 gallon drum
	Electroless Copper (CR04)	55 gallon drum & 330 gallon storage tote
	Acid Zinc Solution (D002 or CR04)	55 gallon drum
	Acid Copper Solution (D002 or CR04)	55 gallon drum
	Palladium Solution (D002 or CR04)	55 gallon drum
	Waste Nickel Solution (D002 or CR04)	55 gallon drum
	Lead Fluoride Sludge (D008)	55 gallon drum

TABLE 5.5 (continued)

WASTES STORED IN DESIGNATED AREAS

MacDermid, Inc.
526 Huntingdon Avenue
Waterbury, Connecticut

Storage Area	Waste Stream (EPA/CT-Regulated Number)	Storage Container
Combustible Storage Area	NMP (CR04)	55 gallon drum & 330 gallon tote
	Vacuum Pump Oil/Inks (D001 or CR02)	55 gallon drum
	Waste Mixed Solvents - Non- Chlorinated (D002/F003/F005)	55 gallon drum & 5 gallon plastic container
	Waste Mixed Solvents - Chlorinated (D002/F002)	55 gallon drum & 5 gallon plastic container
Flammable Material Storage Area	Waste Mixed Solvents - Non- Chlorinated (D002/F003/F005)	55 gallon drum & 5 gallon plastic container
	Waste Mixed Solvents - Chlorinated (D002/F002)	55 gallon drum & 5 gallon plastic container
	Acetone (U002)	5 gallon plastic container
	Methanol (U154)	5 gallon plastic container
Waste Storage Tanks	Copper Etchant (D002/D008)	5,000 & 8,000 gallon FRP tanks
Metal Hydroxide/ Sulfide Sludge Storage Area	Metal Hydroxide/Sulfide Sludge (F006)	26 cubic yard roll-off

TABLE 5.6

STORAGE CONTAINERS SPECIFICATIONS

MacDermid, Inc.
526 Huntingdon Avenue
Waterbury, Connecticut

<u>Waste Stream</u>	<u>Container Type</u>	<u>Liner Type</u>	<u>Labels (if applicable)*</u>
I. Copper Etchant Solder Conditioner NMP Solder Stripper Electroless Copper Acid Zinc Solution Acid Copper Solution Palladium Solution Waste Nickel Solution Vacuum Oil/Inks Lead Fluoride Sludge Mixed Solvents (Chlorinated)	55 gallon polyethylene drum - DOT Specification 34	None	Corrosive Corrosive Combustible Liquid Corrosive ORM-E Corrosive Corrosive Corrosive Corrosive Combustible liquid ORM-B Flammable/Corro- sive Combustible Liquid Flammable/Corro- sive Combustible Liquid
Mixed Solvents (Non- chlorinated)			
II. Copper Etchant Electroless Copper	330 gallon polyethylene storage totes - DOT Specifications E-8225 and E-9052	None	Corrosive ORM-E
III. Methanol Acetone Mixed Solvents (Chlorinated) Mixed Solvents (Non- Chlorinated)	5 gallon polyethylene Container - DOT Specification 34	None	Flammable/ Combustible Liquid/ Corrosive
IV. Mixed Solvents (Chlorinated) Mixed Solvents (Non- Chlorinated)	55 gallon steel drum - DOT Specification 17E	Polyethylene Liner	Flammable/ Combustible Liquid/ Corrosive
V. Dewatered Metal Hydroxide/ Sulfide Sludge	26 cubic yard steel roll-off No DOT Specification	Polyethylene Liner	ORM-E

*NOTE: The label to be used on the Waste Streams such as mixed solvents (chlorinated) with more than one label listed above will be determined from its flash point and/or pH.

5.5.2 Waste Compatibility

To ensure the waste streams stored in each designated area are compatible with each other, a review of the waste's constituents was performed. To complete this task, the procedure listed below which was obtained from the EPA Document "A Method for Determining the Compatibility of Hazardous Wastes" (EPA-600/2-80-076) was followed.

- Step 1: Determined the waste streams which may be stored within each storage area (see Table 5.5).
- Step 2: Determined the chemical constituents which are present within each waste stream (see Table 5.1, 5.2, and 5.3).
- Step 3: Determined the Reactivity Group Numbers (RGN) for each chemical constituents from the lists provided under Appendix J (obtained from the EPA document).
- Step 4: Determined the Reaction Codes (RC) for each storage area by comparing all possible binary RGN combinations and reviewing the Hazardous Waste Compatibility Chart (Figure 5.2) which was obtained from the EPA document.

Summarized under Table 5.7 are the waste streams, chemical constituents and Reactivity Group Numbers for each storage area. The reaction codes for each storage area are provided under Table 5.8. Review of 5.8 shows that no type of reaction will occur in the combustible storage area, the flammable material storage area, or the metal hydroxide/sulfide sludge storage area if the wastes stored within these areas are mixed (i.e. by leaks or spills). The mixing of the copper etchant with sodium hydroxide in the waste storage tank area

TABLE 5.7

REACTIVITY GROUP NUMBERS FOR EACH STORAGE AREA

MacDermid, Inc.
526 Huntingdon Avenue
Waterbury, Connecticut

I. MAIN CONTAINER STORAGE AREA

Waste Stream	Chemical Constituents	Reactivity Group Number*
Copper Etchant	Ammonium Chloride	None
	Ammonium Hydroxide	10
	Copper	24
	Zinc	24
	Tin	24
	Lead	24
	Iron	24
	Nickel	24
Solder Conditioner	Ammonium Chloride	None
	Hydrochloric Acid	1
	Fluoride	None
	Copper	24
	Iron	24
Solder Stripper	Hydrogen Peroxide	104
	Ammonium Bifluoride	15
	Chloride	None
	Copper	24
	Tin	24
	Lead	24
	Iron	24
	Nickel	24
Electroless Copper	Copper	24
	Sodium Hydroxide	10
	Formaldehyde	5
	Chelator (EDTA) Nickel	24
Waste Nickel Solution	Nickel	24
Lead Fluoride Sludge	Lead	24
	Fluoride	None
	Tin	24

TABLE 5.7 (continued)

REACTIVITY GROUP NUMBERS FOR EACH STORAGE AREA

MacDermid, Inc.
526 Huntingdon Avenue
Waterbury, Connecticut

I. MAIN CONTAINER STORAGE AREA

Waste Stream	Chemical Constituents	Reactivity Group Number*
Acid Zinc Solution	Zinc	24
	Ammonium Chloride	None
	Aluminum Sulfate	None
Acid Copper Solution	Copper	24
Palladium Solution	Palladium	24

*Note: All metal constituents are in solution, therefore, the Reactivity Group Number 24 was used for all metal constituents.

TABLE 5.7 (continued)

REACTIVITY GROUP NUMBERS FOR EACH STORAGE AREA

MacDermid, Inc.
526 Huntingdon Avenue
Waterbury, Connecticut

II. COMBUSTIBLE STORAGE AREA

Waste Stream	Chemical Constituent	Reactivity Group Number
NMP	NMP	101
	Chloride	None
	Copper	24
Waste Mixed Solvents (Non-Chlorinated)	Xylene	16
	Ethyl Acetate	13
	Ethyl Benzene	16
	Methyl Isobutyl Ketone	19
	N-Butyl Alcohol	4
	Cyclohexanone	19
	Methanol	4
	Toluene	16
	Methyl Ethyl Ketone	19
Waste Mixed Solvents (Chlorinated)	Isobutanol	4
	Tetrachloroethylene	17
	Trichloroethylene	17
	1,1,1-Trichloroethane	17
	Chlorobenzene	17
	1,1,2-Trichloro-1,2,2-Trifluoroethane	17
Vacuum Pump Oil	Oil	101

TABLE 5.7 (continued)

REACTIVITY GROUP NUMBERS FOR EACH STORAGE AREA

MacDermid, Inc.
526 Huntingdon Avenue
Waterbury, Connecticut

III. FLAMMABLE MATERIAL STORAGE AREA

Waste Stream	Chemical Constituent	Reactivity Group Number
Methanol	Methanol	4
Acetone	Acetone	19
Waste Mixed Solvents (Non-Chlorinated)	Xylene	16
	Ethyl Acetate	13
	Ethyl Benzene	16
	Methyl Isobutyl Ketone	19
	N-Butyl Alcohol	4
	Cyclohexanone	19
	Methanol	4
	Toluene	16
	Methyl Ethyl Ketone	19
	Isobutanol	4
Waste Mixed Solvents (Chlorinated)	Tetrachloroethylene	17
	Trichloroethylene	17
	1,1,1-Trichloroethane	17
	Chlorobenzene	17
	1,1,2-Trichloro-1,2,2-Trifluoroethane	17

TABLE 5.7 (continued)

REACTIVITY GROUP NUMBERS FOR EACH STORAGE AREA

MacDermid, Inc.
526 Huntingdon Avenue
Waterbury, Connecticut

IV WASTE STORAGE TANKS

Waste Stream	Chemical Constituent	Reactivity Group Number
Copper Etchant	Ammonium Chloride	None
	Ammonium Hydroxide	10
	Copper	24
	Zinc	24
	Tin	24
	Lead	24
	Iron	24
	Nickel	24
Virgin 50% Sodium Hydroxide	Sodium Hydroxide	10

TABLE 5.7 (continued)

REACTIVITY GROUP NUMBERS FOR EACH STORAGE AREA

MacDermid, Inc.
526 Huntingdon Avenue
Waterbury, Connecticut

V. METAL HYDROXIDE/SULFIDE SLUDGE STORAGE AREA

Waste Stream	Chemical Constituent	Reactivity Group Number
Dewatered Metal Hydroxide/Sulfide Sludge	Copper	24
	Iron	24
	Aluminum	24
	Chromium	24
	Zinc	24
	Tin	24
	Lead	24
	Sulfur	101
	Fluoride	None
Metal Hydroxide/Sulfide Sludge	Copper	24
	Iron	24
	Aluminum	24
	Chromium	24
	Zinc	24
	Tin	24
	Lead	24
	Sulfur	101
	Fluoride	None

TABLE 5.8

REACTION CODES FOR EACH STORAGE AREA

MacDermid, Inc.
526 Huntingdon Avenue
Waterbury, Connecticut

I. MAIN CONTAINER STORAGE AREA

Reactivity Group Numbers: 1, 5, 10, 15, 24, 104 (see Table 5.7)

Binary Combinations	Reaction Code	Type of Reaction
(1,5)	H, F	Heat Generation, Violent Polymerization
(1,10); (5,10)	H	Heat Generation
(1,15);	GT	Toxic Gas Generation
(1,24); (10,24)	S	Solubilization of Toxic Substances
(1,104)	H, GT	Heat, Toxic Gas Generation
(5,104)	H, F	Heat, Fire
(5,15); (5,24); (10,15); (10,104); (15,24); (15,104); (24,104)	None	No Reaction

II. COMBUSTIBLE STORAGE AREA

Reactivity Group Numbers: 4, 13, 16, 17, 19, 24, 101 (see Table 5.7)

Binary Combinations	Reaction Code	Type of Reaction
(4,13); (4,16); (4,17); (4,19); (4,24); (4,101); (13,16); (13,17); (13,19); (13,24); (13,101); (16,17); (16,19); (16,24); (16,101); (17,19); (17,24); (17,101); (19,24); (19,101); (24,101)	None	No Reaction

TABLE 5.8 (continued)

REACTION CODES FOR EACH STORAGE AREA

MacDermid, Inc.
526 Huntingdon Avenue
Waterbury, Connecticut

III. FLAMMABLE MATERIAL STORAGE AREA

Reactivity Group Numbers: 4, 13, 16, 17, 19 (see Table 5.7)

Binary Combinations	Reaction Code	Type of Reaction
(4,13); (4,16); (4,17); (4,19); (13,16); (13,17); (13,19); (16,17); (16,19); (17,19)	None	No Reaction

IV. WASTE STORAGE TANKS

Reactivity Group Numbers: 10, 24 (see Table 5.7)

Binary Combinations	Reaction Code	Type of Reaction
(10,24)	S	Solubilization of Toxic Substances

V. METAL HYDROXIDE/SULFIDE SLUDGE STORAGE AREA

Reactivity Group Numbers: 24, 101 (see Table 5.7)

Binary Combinations	Reaction Code	Type of Reaction
(24, 101)	None	No Reaction

will result in the solubilization of toxic substances. Since, the metal constituents within the copper etchant are already in solution, this type of reaction is not applicable.

Based on the Hazardous Waste Compatibility Chart (Figure 5.2), the types of reactions which may occur in the main container storage area are: heat generation; violent polymerization; toxic gas generation; solubilization of toxic substances; and fire. Since these reactions are based on the results of pure chemical compounds of wastes reacting at ambient temperature and pressure, compatibility tests were performed by MacDermid, Inc. for the wastes stored in this area. As a result of these compatibility studies (see Appendix K), MacDermid determined that only chromic acid was not compatible with the copper etchant, or solder conditioner. Chromic acid which was listed under the Part B Permit Application submitted in November, 1988, has been removed from MacDermid's Part A Application and will not be managed at this facility.

To ensure all future shipments of wastes are stored in compatible areas, the procedures outlined under the Hazardous Waste Compatibility Flow Chart (Figure 5.3) will be followed.

5.5.3 Waste to Storage Area Compatibility

The surfaces and structures employed in each storage area are listed under Table 5.9. The epoxy sealant (stonclad HT) which is used in all of the storage areas except the metal

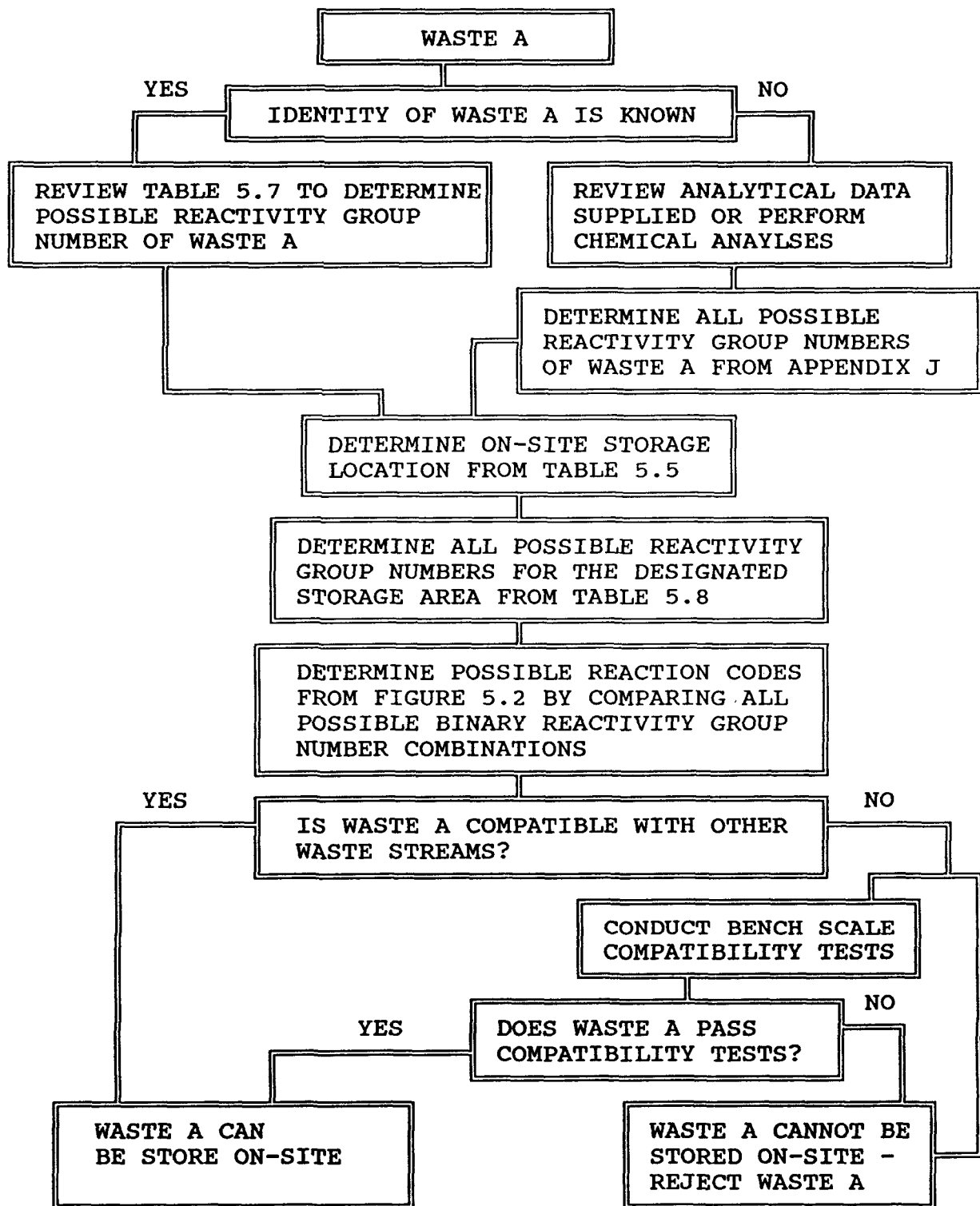


FIGURE 5.3

HAZARDOUS WASTE COMPATIBILITY
FLOW CHART

TABLE 5.9

STORAGE AREAS SURFACES AND STRUCTURES

MacDermid, Inc.
526 Huntingdon Avenue
Waterbury, Connecticut

<u>Storage Area</u>	<u>Surfaces/Structures</u>
Main Container Storage Area	<ul style="list-style-type: none">• Concrete floor coated with an epoxy sealant• Steel racks• Cinder block walls*• Steel cages (storage tote)• Wooden Pallets
Combustible Storage Area	<ul style="list-style-type: none">• Concrete floor coated with an epoxy sealant• Angle iron berms coated with an epoxy sealer• Wooden pallets• Steel cages (storage totes)• Cinder block wall*
Flammable Material Storage Area	<ul style="list-style-type: none">• Concrete floor coated with an epoxy sealant• Angle iron coated with an epoxy sealant• Wooden pallets• Cinder block wall*
Waste Storage Tanks	<ul style="list-style-type: none">• Concrete floor coated with an epoxy sealant• Wooden steps• Cinder block wall*

*NOTE: Cinder block walls in each storage area will be coated with the same epoxy sealant by August 1, 1990.

hydroxide/sulfide sludge storage area has a rating of good to excellent for the majority of wastes stored on-site. A copy of the epoxy sealant's chemical resistance guide is provided as Appendix F.

The remaining structures which include the steel racks, steel cages, cinder block walls, wooden pallets and concrete floor in the sludge storage area (not covered with epoxy sealant) are not designed for routine exposure to chemical spillage. Chemical spillage on these units must be removed as soon as possible to prevent structural defects. The sludge storage area will not be exposed to corrosive chemicals, therefore, covering this area with epoxy sealant is not necessary.

5.6 Parameter Rationale

The list of parameters listed under Tables 5.1, 5.2 and 5.3 were obtained for each waste stream by:

1. Reviewing the chemical formulas developed by MacDermid, Inc.;
2. Obtaining lists of possible chemical compounds used by MacDermid researchers (mixed solvent waste streams); and
3. Conducting laboratory analysis on waste streams.

The reasoning behind testing for the parameters listed under Table 5.1 for the used surface finishing chemicals received from new and existing customers for the first time and off-site MacDermid facilities (see Section 5.4.1.1) and setting allowable concentrations is to assure:

1. That the waste stream can be recycled without causing failure of or interruption of MacDermid's recycling operation.

2. That the waste stream is listed under MacDermid's Part A Application and, therefore, can be handled at this facility.
3. That the waste stream is compatible with the other waste streams to be stored on-site.
4. Manifest is completed accurately and discrepancies can be determined upon receipt.
5. Appropriate response actions can be taken in the event of a spill.

The spot test listed under Table 5.4 for the used metal finishing chemicals will enable MacDermid, Inc. to determine if the waste being returned is a MacDermid product.

The parameters listed under Tables 5.2 and 5.3 for waste streams received from the 245 Freight Street (excluding used surface finishing chemicals) and waste generated on-site respectively were chosen to assure:

1. That the waste stream is listed under MacDermid's Part A Application and, therefore, can be managed at this facility.
2. That the waste stream is compatible with the other waste streams to be stored on-site.

5.7 Methods of Analysis

Described below are the methods of analysis that will be followed by MacDermid, Inc. or an off-site certified laboratory for the waste monitoring procedures listed under Section 5.4.

5.7.1 Used Metal Finishing Chemicals - First Time Customers

The specific analytical methods to be followed by MacDermid, Inc., or an off-site certified laboratory, for first time waste streams are listed on Table 5.10. The specific parameters to be analyzed for each waste designation are provided on Table 5.1.

TABLE 5.10

**METHODS OF ANALYSIS FOR USED SURFACE FINISHING CHEMICALS -
FIRST TIME CUSTOMERS/STREAMS THAT FAIL SPOT TESTS**

MacDermid
526 Huntingdon Avenue
Waterbury, Connecticut

<u>Parameter</u>	<u>Test Method</u>	<u>Analytical Method</u>
Copper	Atomic Absorption	7210 ¹
Iron	Atomic Absorption	7380 ¹
Lead	Atomic Absorption	7420 ¹
Nickel	Atomic Absorption	7520 ¹
Tin	Atomic Absorption	7870 ¹
Zinc	Atomic Absorption	7950 ¹
Palladium	Atomic Absorption	None
Chloride	Colorimetric	9251 ¹
Fluoride	Specific-Ion	413 ²

¹ Test Methods for the Evaluations of Solid Wastes Physical/Chemical Methods, EPA, SW-846, 3rd Edition, November, 1986.

² Standard Method for the Examination of Water and Wastewater, 15 ed., American Public Health Association, American Water Works Association, Water Pollution Control Federation, 1985.

5.7.2 Used Metal Finishing Chemicals - Spot Tests

The spot test methods to be followed by MacDermid personnel for all containers and tankers of used metal finishing chemicals received on-site are listed on Table 5.4. The spot tests to be performed on each waste stream are provided on Table 5.11.

5.7.3 Wastes Generated On-Site and Received from 245 Freight Street (Excluding Used Surface Finishing Chemicals)

The specific analytical methods to be followed by MacDermid, Inc., or an off-site certified laboratory for waste stream generated on-site or received from the 245 Freight Street facility (excluding used metal finishing chemicals) are listed under Table 5.12. The specific parameters to be analyzed for each waste designation are provided on Tables 5.2 and 5.3.

5.7.4 Spills

Spill residues from known sources will be analyzed for the parameters listed under Tables 5.1, 5.2 and 5.3. Spill residues from unknown sources will be analyzed for all the parameters listed under Table 5.12.

5.8 Time Horizons/Sampling Procedures

5.8.1 Time Horizons

The used surface finishing chemicals received in containers and on MacDermid trucks will be transferred to the Quality Control area and spot tested within 48 hours of receipt. Containers which fail the spot tests, as discussed under Section

TABLE 5.11

SPOT TEST PROCEDURES FOR USED SURFACE FINISHING CHEMICALS

MacDermid, Inc.
526 Huntingdon Avenue
Waterbury, Connecticut

Chemical

Electroless Copper

Spot Test Format

Equipment:

1. Standard laboratory equipment

Reagents:

1. Red litmus paper

Procedures:

1. Appearance

Obtain a representative sample of material to be tested. Decant approximately 150 ml. sample into a 250 ml. beaker. Examine solution for color, turbidity, and extraneous material.

2. pH

Using a pH meter standardized with pH 4 buffer, obtain and record a pH value for the sample.

3. Liberated Ammonia

- a. Add 2.0 g NaOH crystals to plastic beaker containing 20 ml. of spent solution. Suspend a moist piece of litmus and cover with a watch glass.
- b. Wait a minute. If the paper turns blue, test is positive.

TABLE 5.11 (continued)

SPOT TEST PROCEDURES FOR USED SURFACE FINISHING CHEMICALS

MacDermid, Inc.
526 Huntingdon Avenue
Waterbury, Connecticut

Chemical

Solder Stripper

Spot Test Format

Equipment:

1. Standard laboratory equipment
2. pH meter

Reagents:

1. Red litmus paper
2. Sodium hydroxide (NaOH) crystals
3. pH paper

Procedures:

1. Appearance

Obtain a representative sample of material to be tested. Decant approximately 150 ml. sample into a 250 ml. beaker. Examine solution for color, homogeneity and extraneous material.

2. pH

Using pH paper, obtain and record a pH value for the sample.

3. Free Ammonia

Wave a moistened piece of red litmus paper over incoming drum. If paper remains red, test is negative.

4. Liberated Ammonia

- a. Add 2.0 g NaOH crystals to plastic beaker containing 20 ml. of spent solution. Suspend a moist piece of litmus and cover with a watch glass.
- b. Wait a minute. If the paper turns blue, test is positive.

TABLE 5.11 (continued)

SPOT TEST PROCEDURE FOR USED SURFACE FINISHING CHEMICALS

MacDermid, Inc.
526 Huntingdon Avenue
Waterbury, Connecticut

Chemical

NMP

Spot Test Format

Equipment:

1. Standard laboratory equipment
2. Refractometer

Procedures:

1. Appearance

Decant approximately 250 ml. of the sample into a 500 ml. beaker. Examine solution for color, clarity, and extraneous material.

Allow sample to sit for one hour and reexamine. No phase separation should be evident.

2. Specific Gravity

Fill a tared 100 ml. volumetric flask with sample and weigh to the nearest 0.1 g.

Calculation: $\frac{\text{Sample Weight (g)}}{100} = \text{Specific Gravity}$

3. Water Content

Heat or cool approximately 50 ml. of the sample to 25°C.

Vacuum filter the sample into a clean, dry receiver. Make sure all filter apparatus is dry prior to filtration.

Determine refractive index to 4 decimal places with refractometer.

TABLE 5.11 (continued)

SPOT TEST PROCEDURES FOR USED SURFACE FINISHING CHEMICALS

MacDermid, Inc.
526 Huntingdon Avenue
Waterbury, Connecticut

Chemical

Solder Conditioner

Spot Test Format

Equipment:

1. Standard laboratory equipment
2. pH meter
3. Water bath
4. Red litmus paper

Reagents:

1. NaOH crystals

Procedures:

1. Appearance

Obtain a representative sample of material to be tested. Decant approximately 150 ml. sample into a 250 ml. beaker. Examine solution for color, homogeneity and extraneous material.

2. pH

Using a pH meter standardized with pH 4 buffer, obtain and record a pH value for the sample.

3. Liberated Ammonia

- a. Add 2.0 g NaOH crystals to plastic beaker containing 20 ml. of spent solution. Suspend a moist piece of litmus and cover with a watch glass.
- b. Wait a minute. If the paper turns blue, test is positive.

TABLE 5.11 (continued)

SPOT TEST PROCEDURES FOR USED SURFACE FINISHING CHEMICALS

MacDermid, Inc.
526 Huntingdon Avenue
Waterbury, Connecticut

Chemical

Copper Etchant

Spot Test Format

Equipment:

1. Standard laboratory equipment

Reagents:

1. Red litmus paper

Procedures:

1. Appearance

Obtain a representative sample of material to be tested. Decant approximately 150 ml. sample into a 250 ml. beaker. Examine solution for color, turbidity and extraneous material.

2. Specific Gravity

Place digital density meter probe in drum and record specific gravity measurement once the reading has stabilized.

3. Free Ammonia

Wave a moistened piece of red litmus paper over incoming drum. If paper turns blue, the drum has tested positive for ammonia.

TABLE 5.12

METHODS OF ANALYSIS FOR WASTES GENERATED ON-SITE
AND RECEIVED FROM 245 FREIGHT STREET
(EXCLUDING USED SURFACE FINISHING CHEMICALS)

MacDermid, Inc.
526 Huntingdon Avenue
Waterbury, Connecticut

<u>Parameter</u>	<u>Test Method</u>	<u>Analytical Method</u>
Aluminum	Atomic Absorption	7020 ¹
Chromium	Atomic Absorption	7190 ¹
Copper	Atomic Absorption	7210 ¹
Iron	Atomic Absorption	7380 ¹
Lead	Atomic Absorption	7420 ¹
Nickel	Atomic Absorption	7520 ¹
Tin	Atomic Absorption	7870 ¹
Zinc	Atomic Absorption	7950 ¹
Fluoride	Specific-Ion	413 ²
pH	Probe	9049 ¹
Acetone	Gas Chromatography	8240 ¹
Xylene	Gas Chromatography	8020 ¹
Ethyl Benzene	Gas Chromatography	8020 ¹
Ethyl Ether	Gas Chromatography	8015 ¹
Methyl Isobutyl Ketone	Gas Chromatography	8015 ¹
N-Butyl Alcohol	Gas Chromatography	8015 ¹
Toluene	Gas Chromatography	8020 ¹
Methyl Ethyl Ketone	Gas Chromatography	8015 ¹
Isobutanol	Gas Chromatography	8015 ¹
Tetrachloroethylene	Gas Chromatography	8010 ¹
Trichloroethylene	Gas Chromatography	8010 ¹
1,1,1-Trichloroethane	Gas Chromatography	8010 ¹
Chlorobenzene	Gas Chromatography	8010 ¹
1,1,2-Trichloro-1,2,2-Trifluoroethane	Gas Chromatography	8010 ¹
Flash Point	Pensky-Martens Closed Cup	1010 ¹

¹ Test Methods for the Evaluations of Solid Wastes Physical/Chemical Methods, EPA, SW-846, 3rd Edition, November, 1986.

² Standard Method for the Examination of Water and Wastewater, 15 ed., American Public Health Association, American Water Works Association, Water Pollution Control Federation, 1985.

5.4, will either be rejected and returned to the customer/off-site MacDermid facility or tested for the parameters listed under Table 5.1. Samples submitted for additional testing will be completed within 72 hours of on-site delivery. Based on the results of this testing, the containers of used surface finishing chemicals will either be accepted for on-site process or returned to the customer/off-site MacDermid facility. Following completion of all required testing, the manifest will be completed. For all rejected wastes, a manifest discrepancy report will be filed.

The used surface finishing chemicals received in containers and on off-site carriers will be spot tested and, if determined necessary, tested for the parameters listed under Table 5.1 within 4-6 hours of receipt. Containers will be stored on the East Aurora Street loading area while waiting for test results. Following completion of all required testing, the manifest will be completed. A manifest discrepancy report will be filed for all rejected wastes.

Used surface finishing chemical received in bulk form will be spot tested and, if determined necessary, tested for the parameters listed under Table 5.1 within 4-6 hours of receipt. Following completion of all required testing, the manifest will be completed and the bulk shipment will either be discharged to the appropriate storage tank or returned to

the customer/off-site MacDermid facility. A manifest discrepancy report will be filed for all rejected wastes.

The wastes generated on-site (excluding used surface finishing chemicals) will be tested by the receiving facility (TSDF) for the parameters listed under Table 5.3.

The wastes received from 245 Freight Street (excluding used surface finishing chemicals) will be accompanied with a laboratory report, therefore, no sampling or analysis will be performed on these wastes streams.

All waste streams generated on-site will be reanalyzed (re-characterized) yearly or whenever a significant raw material or process has occurred. Customer generated wastes will also be re-analyzed when an unexpected reaction, fume generation, or other significant process upset occurs in the recycling operation.

5.8.2 Sampling Procedures

All samples will be collected and preserved in accordance with the principles described below.

5.8.2.1 Method

Sample collection and preservation techniques vary with the characteristics of the wastes (solid, liquid) and types of analysis to be conducted on the waste.

In selecting the appropriate sample containers, MacDermid considered the following

guidelines: Sample containers must not distort, rupture or leak as a result of chemical reactions with constituents of waste samples; they must have adequate wall thickness to withstand handling during sample collection and transport to the laboratory; and containers must be large enough to contain the required volume of sample for analysis.

Based on these guidelines, the following plastic and glass containers are generally used for collecting and storing hazardous waste samples at MacDermid.

1. 600 cc Polyethylene (High Density),
2. Glass Bottle, and
3. Coliwasa used to collect liquid samples.

5.8.2.2 Sample Collection

All first time waste streams are sampled by the customer and submitted to MacDermid. To assist the customer in the proper procedures for sample collection, the instructions included in Appendix I are provided to all customers.

For all shipments to the plant, MacDermid personnel collect the sample in accordance with the following procedures:

A. Sampling Liquids from Drums/Storage Tanks

Sampling of liquids from drums and storage tanks is accomplished using a

TABLE 5.13

COLLECTION/SAMPLE PRESERVATION REQUIREMENTS

MacDermid, Inc.
526 Huntingdon Avenue
Waterbury, Connecticut

<u>Parameter</u>	<u>Container</u>	<u>Preservation</u>
Metals	Plastic or Glass	HNO ₃ to pH <2
pH	Plastic or Glass	Cool to 4°C
Flash Point	Plastic or Glass	Cool to 4°C
Volatile Organic Compounds	Glass w/Teflon Seal	Cool to 4°C Sodium Thiosulfate
Chloride	Plastic or Glass	Cool to 4°C
Fluoride	Plastic	None Required
Ammonia	Plastic or Glass	H ₂ SO ₄ to pH <2 Cool to 4°C
Sulfide	Plastic or Glass	Zinc Acetate Cool to 4°C
Cyanide	Plastic or Glass	NaOH to pH >12 0.6 g ascorbic acid Cool to 4°C

Coliwasa and in accordance with the following procedures:

1. Clean Coliwasa.
2. Adjust sampler's locking mechanism to ensure that the stopper rod handle is in the T-position and pushing the rod down until the handle sits against the sampler's locking block.
3. Slowly lower the sampler into the waste at a rate that permits the level of liquid inside and outside the sampler to remain the same. If the level of waste in the sampler tube is lower inside than outside, the sampling rate is too fast and will produce a unrepresentative sample.
4. When the sampler hits the bottom of the waste container, push sampler tube down to close and lock the stopper by turning the T-handle until it is upright and one end rests on the locking block.
5. Withdraw Coliwasa from waste and wipe the outside with a disposable cloth or rag.
6. All samples will be preserved as specified in Table 5.13.

B. Sampling Liquids from Tankers

Samples of liquid waste from tankers are obtained using a weighted bottle and employing the following procedures:

1. Clean bottle.
2. Assemble weighted bottle sampler.
3. Lower the sampler to directed depth and pull out the bottle stopper by jerking the line.

4. Allow bottle to fill completely as evidenced by cessation of air bubbles.
5. Raise sampler, cap, and wipe off with a disposable cloth. The bottle can serve as a sample container.
6. All samples will be preserved as specified in Table 5.13. If tankers are equipped with multi-compartments, discrete samples will be collected from each compartment under the following conditions:
 - (a) compartments contain different waste streams.
 - (b) compartments contain the same waste stream but were collected from different facilities.

The mixing of similar waste streams within the same compartment from more than one facility will not be permitted.

C. Sampling Solids

Solid materials are sampled by taking a "core" sample vertically through the center of the material.

In both tanks and drums, if the tube inserted locates a sludge layer on the bottom, a "dipstick" is inserted to measure sludge height (volume). Then separate samples of sludge and liquid are taken and combined.

A one inch tube made of a material that is compatible with the material to be sampled, is used.

5.9 Internal Waste Tracking System

For every waste stream generated on-site, a 3 digit identification number is designated for the waste stream.

An ID number log book contains the 3-digit number, person or department generating the waste, description or name of the waste and the receiving TSDF.

The number, as assigned by the Compliance Administrator is given to the MacDermid Research Technician to mark on the container. The Research Technician must then complete a "Waste Analysis Plan For On-Site Generated Waste" (see Figure 5.4) sheet and a "Generated Waste - Spot Test" (see Figure 5.5) sheet.

Copies of these two typed documents are retained by the Compliance Administrator and the Research Technician. The Research Technician is instructed to use this 3 digit ID number on the waste container at all times along with a hazardous waste and/or non-hazardous waste label. When the container is ready to be shipped off-site, the Research Technician must perform spot testing and complete the "Result" column. If the results are within the given "Specification" and approved by the Compliance Administrator, a copy of the Spot Test is attached to the shipping manifest. A copy of the Spot Test is also retained by the Research Technician.

The ID number is also listed on the manifest to continue the tracking system.

For one-time waste streams or waste streams which are not transferred between Freight Street and Huntingdon Avenue facilities, a

WASTE ANALYSIS PLAN
ON-SITE GENERATED WASTES

FIGURE 5.4
MacDermid, Inc.
526 Huntingdon Ave.
Waterbury, CT

SECTION
264.13

WASTE _____

TSDF _____ REF: NO: _____

SOURCE: _____

CHARACTERISTICS

EQUIPMENT USED TO ANALYZE

Waste Nos: _____

Color: _____

pH Meter: _____

Odor: _____

SP.GR: (Hydrometer): _____

pH: _____

Fl. Pt. (Tag CC ASTM D56-64, 1968) _____

Sp. Gr.: _____

Gas Chromatography: _____

Fl. Pt.: _____

A.A. Spectrophotometry: _____

Layering: _____

Wet Analysis (Titration): _____

Frequency of Sampling: _____

Method of Collection: _____

Land-Ban: Yes _____ No _____

METALS & CONC: _____

COMPOSITION: _____

RATIONALE: _____

GENERATED WASTE - SPOT TEST

FIGURE 5.5
MacDermid, Inc.
526 Huntingdon Ave.
Waterbury, CT

WASTE ID NO: _____
(3 digits)

DEPARTMENT: _____

DEPT. ACCT. NUMBER WASTE TO BE
CHARGED TO: _____

WASTE NAME: _____

TYPE SAMPLE: GRAB
COMPOSITE
RANDOM

.....

CHARACTERISTICS

RESULTS

SPECIFICATIONS

Odor

Color

pH

Sp. Gravity

Flash Point

Metals Run if Applicable

Tin

Lead

Iron

Copper

Zinc

Cadmium

Other _____

Solvents:

I certify this waste is within specification of the written waste analysis plan for on-site generated wastes per waste ID number.

(Signature)

Date: _____

designated TSDF profile sheet is completed and/or a Waste Analysis Plan (if determined to be a continuous wastestream). All testing is done by the off-site TSDF. The same ID number system described above is utilized on these waste streams.

5.10 Quality Control

The on-site laboratories are used to analyze both the metal finishing chemicals products manufactured on-site and the generated/recycled waste streams. To maintain analytical quality control, samples of chemical products with known analyte(s) concentrations are submitted to the laboratories on a daily basis.

The off-site laboratory used by MacDermid, Inc. is a certified laboratory. A copy of MacDermid's QA/QC plan is provided as Appendix X.

MacDermid's on-site testing is limited to atomic absorption, pH, flash point, GC, and wet analysis.

An off-site state certified laboratory would be utilized for testing the remaining parameters such as total cyanide, TOX, etc. The certified laboratory services would also be employed to assist in identifying "unknown" materials.

5.11 Analysis Records

Written copies of all analyses including spot tests, are retained in MacDermid's Operating Logs for at least three (3) years.

6.0 SITE SECURITY PLAN [40 CFR 264 Section 264.14 and Section 270.14(b)(4)]

6.1 General

Federal and state regulations require that stringent security measures be implemented at hazardous waste and Connecticut-regulated waste facilities in order to:

- prevent unknown entry and minimize unauthorized entry of persons and livestock from the active portion of the facility;
- provide 24-hour surveillance or artificial or natural barriers surrounding the entire facility;
- provide control of entry to the active portions of the facility; and
- provide signs with the legend "DANGER -- UNAUTHORIZED PERSONNEL KEEP OUT" at each entrance and other locations such that the signs may be seen from any approach to the facility.

Described in this section of the application are the security precautions taken at MacDermid, Inc. to meet the requirements of the regulations listed above.

6.2 Barriers/Surveillance

Prevention of unknowing entry and access to the active portions of the MacDermid, Inc. facility is accomplished by a combination of surveillance and barriers.

6.2.1 Barriers

FENCES/GATES

The yard area at 526 Huntingdon Avenue is surrounded on three sides by a 6 foot high steel mesh fence with three strands of barbed wire on top (see Figure 6.1). The East Aurora Street Building serves as a barrier on the fourth side. The two (2) entrance gates to the Huntingdon Avenue yard are

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RDMS Document ID # 100863

Facility Name: MACDERMID INC

Facility ID#: CTD001164599

Phase Classification: R-1B

Purpose of Target Sheet:

☒ **Oversized (in Site File)** ☐ **Oversized (in Map Drawer)**

☐ **Page(s) Missing (Please Specify Below)**

☐ **Privileged** ☐ **Other (Provide Purpose Below)**

Description of Oversized Material, if applicable:

FIGURE 6.1: FACILITY ENTRANCES

☒ **Map** ☐ **Photograph** ☐ **Other (Specify Below)**

*** Please Contact the EPA New England RCRA Records Center to View This Document ***

kept locked at all times. For the tankers and roll-off transporter to enter the site through the Huntingdon Avenue gate, the driver must first contact MacDermid's manufacturing personnel by activating the bell in the manufacturing department.

The steel mesh fence which extends from the East Aurora Street and Gear Street inter section to the shipping and receiving building is equipped with three gates. Security measures taken by MacDermid for these gates consists of surveillance by MacDermid's personnel within their respective working areas during the operating day and locking the gates after off-hours (after 5 o'clock Monday to Friday, weekends and holidays).

DOORS

All doors to the MacDermid facility are locked from the inside. Employee entrance is provided by four separate doors (see Figure 6.1) which can be activated only with MacDermid employee entrance cards.

All visitors and contractors are required to report to the 2nd floor main lobby located on Huntingdon Avenue.

The only two doors which are unlocked during the operating day are the main entrance on Huntingdon Avenue and the warehouse office. To prevent unknown entry, these entryways are manned during operating hours and locked after hours.

6.2.2 Facility Lighting

Ample lighting is provided inside the facility and in outside areas to facilitate security measures.

6.2.3 Electronic Security

The active portion of the facility is monitored by "ADT" and Sonitrol, an electronic surveillance system. This system will notify the appropriate authorities (police department, fire department, MacDermid personnel) if: external doors are opened, high level alarm in waste water sump is activated, sprinkler system is activated, or equipment malfunctions such as failures in high temperature process tanks and boilers.

If the sprinkler system is activated, ADT notifies MacDermid's Alarm Security Investigator (ASI). The ASI is MacDermid's Emergency Coordinator and/or alternates as listed in the Contingency Plan (Section 10). All fire pull boxes within the building sound an internal audible alarm only for internal emergency notification (evacuation).

When the ASI arrives at the scene, he will open the door to the Production/Research Lab to allow the fire department access to the premises.

6.2.4 Warning Signs

Warning signs are posted at each gate, corners of fence, and at intervals around the perimeter of the facility such that they are visible from all angles of approach. The signs are in English (the predominant language in the area surrounding the

facility) and are constructed of 10 gauge steel, 20" x 14" each. The word "DANGER" is printed in red letters on a white background with letters 2½ inches high. The words "ADMITTANCE TO AUTHORIZED PERSONNEL ONLY" are printed in black letters on a white back ground with letters 1½ inches high. The sign is legible in day light at a distance of 50 feet. The specific location of warning signs posted at the MacDermid facility are listed below:

Area Sign(s)

Huntingdon Ave. Gate "Danger - Admittance to Authorized Personnel Only"

Gear Street Gate "Danger - Admittance to Authorized Personnel Only"

East Aurora St. Gate "Danger - Admittance to Authorized Personnel Only"

North Gate "Danger - Admittance to Authorized Personnel Only"

6.3 Entry Control

The only open approach during the day to the MacDermid Huntingdon Avenue facility will be via the two East Aurora gates. All other gates are closed and locked. All trucks entering the facility are required to park adjacent to the warehouse loading docks, and report to the warehouse office. Upon entry, the warehouse supervisor will inspect the truck for both quantity and quality of hazardous waste material according to the manifest information. If approved by the warehouse supervisor, the driver will be directed to the proper loading/unloading area.

All visitors are required to park in visitor parking spaces provided opposite the *Huntingdon Avenue* main entrance to the building. Each visitor will be required to sign the visitor Log Book. Any visitor who wishes to enter the facility must be accompanied by a MacDermid employee.

Closing at the facility involves closing, locking and/or inspection of all doors in the facility and activating the 24-hour security system, as well as viewing each storage area for spills or leaks. The Plant Manager, Plant Engineer, Assistant Plant Manager or General Manager is responsible for making sure that all entrances to the facility are locked after all personnel have left.

The normal operating hours of the *Huntingdon Avenue* facility are 6:30 am to 12:00 pm weekdays and on Saturdays as needed. The facility is closed on Sundays and Holidays.

Deliveries are not accepted after 5:00 pm.

7.0 HAZARDOUS WASTE INSPECTION PLAN (CFR 40, Sections 264.15 and 264.170-264.194)

7.1 Introduction

Under Section 264.15 of the code of Federal Hazardous Waste Regulations (CFR 40) and State of Connecticut Statutes, the owner or operator must fulfill the following general inspection requirements:

- inspect his facility for malfunctions and deterioration, operator errors, and discharges which may cause release of hazardous waste or pose a threat to human health.
- conduct these inspections often enough to identify problems in time to correct them before they harm human health or the environment.
- develop and follow a written inspection schedule which must be kept at the facility. This inspection schedule must identify the types of problems which must be looked for.
- inspect monitoring equipment, storage tanks, containers, treatment units, loading, unloading areas, safety and emergency equipment, security devices and operating and structural equipment.
- remedy any deterioration or malfunction that the inspection reveals and take remedial action where an incident is revealed.
- record all inspections, including date and time of inspection, name of inspector, notation of observations made and the date and nature of any repairs made and keep these records for a three year period.

7.2 Specific Procedures

Specific procedures for areas of inspection and frequency are included on Table 7.1.

Remedial actions will be noted on the Inspection Log Sheets and maintained in the Operating Record for a minimum of three years. In case of a spill, fire or explosion, the following procedures are to be followed.

TABLE 7.1

INSPECTION SCHEDULE

<u>Area/ Equipment</u>	<u>Specific Item</u>	<u>Types of Problems</u>	<u>Frequency of Inspection</u>
Safety & Emergency Equipment	Absorbent Material	Out of Stock	Monthly/as Needed
	Emergency Shower/Eyewash	Water pressure, leaking, drainage	Weekly
	Goggles and Protective Glasses	Broken or dirty equipment	Monthly
	Rubber Gloves	Out of Stock	As Used
	First Aid Equipment and Supplies	Out of Stock or inoperative	As Used
	Telephone/Paging System/Beepers	Power Loss, Voice Test or Signal	Daily
	Fire Extinguishers	Needs Recharging	Monthly/After Each Use
	Respirators/ Cartridges	Out of Stock	Weekly
	Chemical Suits	Out of Stock/Wear and Tear	As Used
	Shovels	Condition/Out of Stock	As Used
	Scott Air Pack	Air delivery system, Air quantity in reserve	Monthly
	Walkie-Talkies	Power, Voice Test	Weekly/Prior to Use
	Fire Alarm System	Power failure, Audible Alarm	Monthly
	Sprinkler System	Loss of water pressure, signal to security service	Monthly
	High Level Alarms	Signal to ADT, Audible Alarm	Monthly
	Water and air pumps	Power, clogging	Weekly
Container Storage and Handling Areas	Container Placement and Stacking	Aisle space, height of stacks	Weekly
	Sealing of Container	Open lids, torn lining	Weekly
	Labelling of Container	Improper identification, date missing	Weekly
	Containers	Corrosion, leakage, structural defects	Weekly
	Pallets	Damaged (e.g. broken wood, warping)	Weekly
	Base & Foundation of Container Storage Area	Cracks, Spalling, uneven settlement, erosion, wet spots	Weekly
	Curbing for Container Storage Area	Cracks, deterioration	Weekly
	Storage Area Racks in good* condition	Leaks, spills Sagging, swaying	Daily Weekly

TABLE 7.1 (continued)

INSPECTION SCHEDULE

<u>Area/ Equipment</u>	<u>Specific Item</u>	<u>Types of Problems</u>	<u>Frequency of Inspection</u>
	Storage Pallets*	3rd level and above strapped	Weekly
	Racks*	Drum inspection for leads, etc., row B01, B02, B03, B04, B05, level 1-5	Weekly
	High Level Alarm*	Working Order	Weekly
* Apply to the main container storage area only.			
Waste Storage Tank Area/Recycling Area	Level	Tank filled to capacity, unexpected volume loss	Daily Record must be kept of level and gains and losses.
	Area Around Tank	Spotting indicating leaks	Daily
	Fittings	Leaks, corrosion, deterioration	Weekly
	Base & Foundation	Cracks, spalling, uneven settlement, erosion, wet spots sealant, deterioration	Weekly
	Pipes	Leaks, corrosion, deterioration	Weekly
	Valves	Loss of metal thickness, leaks, corrosion	Weekly
	Warning Signs	Damaged, missing	Weekly
	Level Gages	Working Order	Weekly
	Drainage System	Clean/free, evidence of spilled material	Weekly
	Concrete Block Wall	Cracks, sealant deterioration	Weekly
Metal Hydroxide/Sulfide Sludge Storage Area	Tank Shell	Cracks, corrosion, discoloration, bulges, buckles	Weekly
	High Level Alarm	Working Order	Weekly
	Base & foundation (including sealer)	Cracks, spalling, uneven settlement, erosion, wet spots	Weekly
	Sludge press air pressure gauge pipes/valves/fittings	Loss of metal thickness, leaks, corrosion, deterioration	Weekly
	26 yd ³ roll-off container	Liner in place, sludge free of liquid	Weekly
	Warning light shut off for overfill - sludge holding tank	Light in good working condition	Weekly

TABLE 7.1 (continued)**INSPECTION SCHEDULE**

<u>Area/ Equipment</u>	<u>Specific Item</u>	<u>Types of Problems</u>	<u>Frequency of Inspection</u>
Bulk Loading/Unloading Area	Mobile Drainage System catch access H ₂ O from press	Clear/free	Weekly
	Filter press: material should be caked	Condition	Weekly
	Sludge holding tanks	Leaks, valves	Weekly
	Warning Signs	Damaged, missing	Weekly
	Valves/fittings/pipes	loss of metal thickness;leaks, corrosion, deterioration	Weekly
	Dike	Cracks, deterioration	Weekly
	Level gauges	Working order	Weekly
	Base & Foundation	Cracks, spalling, uneven settlement, erosion	Weekly
	Drainage System	Sump drains - clear/free evidence of spilled material	Weekly
	Cinder block wall	Cracks, sealant deterioration	Weekly
Security Devices	Loading/Unloading Area	Spills	Daily
	Facility Fence	Corrosion, damage to Chain-link fence	Weekly
	Gate	Corrosion, damage to Chain-link fence	Weekly
	Warning Signs	Damaged, missing	Weekly

First, the Emergency Coordinator, or his alternate, would be contacted immediately. The Emergency Coordinator will then carry out the Contingency Plan agreed to by local organizations (police and fire departments, hospitals, etc.).

A spill, fire or explosion would be controlled or contained from spreading (if possible) without any further risk or danger to plant personnel.

The names and the phone numbers of the Emergency Coordinator and his designated alternate are listed in the Contingency Plan, for MacDermid, Inc. in Section 10.0.

7.3 Notification

The Connecticut Environmental Protection Agency will be notified by phone, followed by a written report if any of the following occur:

- 1) Release of hazardous wastes.
- 2) Fires involving hazardous wastes.
- 3) Explosions involving hazardous wastes.
- 4) Ground water contamination resulting from hazardous waste incidents.

7.4 Inspection Schedule

This section will delineate the equipment and structures at the facility which require routine inspections. A summary of the areas of inspection and inspection frequency are provided on Table 7.1.

7.4.1 Containment Areas

The storage containment areas consisting of concrete floor surfaces and berms will be visually inspected weekly for signs of structural defects (i.e. cracks, damage, erosion, etc.).

7.4.2 Site Security

At the close of each operating day, all entry gates to the facility will be checked to ensure they are locked. All doors to the facility will be checked to ensure that they are locked.

7.4.3 Areas Subject to Spills

All areas which may be subject to spills will be inspected at least once each operating day for signs of spillage or leakage. These areas include the loading/unloading areas. The results of each such inspection will be entered into the Operating Record (Section 11.0).

7.4.4 Containers [40 CFR Sections 264.15(a) and 264.174]

At least weekly, the drums in the container storage and container handling areas will be inspected for leaks, signs of corrosion, deterioration, pitting, bulging, and to ensure that each container is securely closed. Adequate aisle space will be provided in the container storage area to allow for a thorough inspection of each drum in storage. During these inspections, each drum will be visually inspected. In addition, the storage and handling containment area consisting of all concrete floor surfaces and containment berms will be visually inspected for evidence of spills, leaks, and structural defects (cracks, erosion,

pitting, etc.). The results of each inspection and the nature of any repairs will be entered into the Operating Record.

7.4.5 Storage Tanks

This section will delineate the tanks and related structures which require routine inspections at the facility.

7.4.5.1 Tank Level [40CFR §264.194(a1-3)]

At least once each operating day, the level in each tank will be either measured, or verified from previous readings if no deliveries or discharges have been made to or from the particular tank. The tank levels will be recorded in the Operating Record.

This log of tank levels will be utilized prior to the acceptance or transfer of additional material to verify adequate capacity in the tank for said acceptance. This will preclude the possibility of overfilling the tanks.

7.4.5.2 Construction Materials [40 CFR §264.194(a4)]

At least once each week, the exterior of each tank will be visually inspected to detect corrosion, erosion, cracks and leakage from seams and fixtures. The results of each inspection will be entered into the Operating Record.

7.4.6 Loading/Unloading Areas

The container and bulk loading and unloading areas at least once each operating day will be inspected for signs of

spillage. The dikes, base, foundation, and warning signs of the loading and unloading areas will be visually inspected for evidence of cracks, spalling, deterioration and damage on a weekly basis. The results of each inspection and the nature of any repairs will be entered into the Operating Record.

7.4.7 Emergency Equipment Inspection [40 CFR Section 264.15(b)]

This section will address the frequency and type of inspections to be conducted with regard to communication and alarm systems, fire extinguishing equipment, safety equipment and spill control equipment.

7.4.7.1 Fire Extinguishing Equipment

- (1) At least once each month, all portable fire extinguishers on-site will be visually inspected in accordance with OSHA Standard 29 CFR 1910.157(E)(2), and NFPA Standard 10 entitled, "Standard for Portable Fire Extinguishers", Section 4-3 by MacDermid, Inc. These monthly inspections will determine: if all extinguishers are in their designated places; if each such extinguisher is clearly visible; if the operating instructions on each extinguisher are legible; if any seals or tamper indicators are broken or missing; if any signs of physical damage, corrosion, leakage, or clogged

nozzles are obvious; and if pressure gauge readings are in operating ranges.

- (2) At least annually, each portable fire extinguisher will be subjected to an annual maintenance check in accordance with OSHA Standard 29 CFR 1910.157(e)(3), and NFPA Standard 10, Section 4-4. Each extinguisher will be hydrostatically tested in accordance with the schedule set forth in 29 CFR 1910.157(f), Table L-1 and/or NFPA Standard 10, Table 5-3. The annual inspection, at present, is performed by Waterbury Fire Extinguisher Company in Waterbury, Connecticut. Copies of these annual inspections are maintained as part of the operating record. A copy of their qualifications is provided in Appendix L.

7.4.7.2 Protective Equipment

At least once each month, all protective equipment maintained on-site (protective glasses, gloves, respirators, etc.) will be inventoried and checked for full operational status. Communications and alarm systems will be inspected and tested for proper functioning. (Refer to the Operating Record.)

7.4.7.3 Spill Clean-Up Equipment

At least once each month, all spill clean-up equipment (shovels, absorbent, etc.) will be inventoried and checked for operational status.

The results of each such inspection in this section will be entered into the Operating Record.

7.4.7.4 Communication System

The communication systems employed at MacDermid, Inc. include telephones, telephone paging system, beepers and walkie-talkies. The telephones, telephone paging system and beepers are used daily by MacDermid. Therefore, any operational problems associated with these communication devices will be detected that same day. The walkie-talkies are used at MacDermid for non-routine tasks such as inspecting outside raw material storage tanks. Therefore, the walkie-talkies as specified in Table 7.1 will be inspected weekly.

7.4.7.5 Fire/Sprinkler Systems

The pull-boxes located throughout the Huntingdon Avenue facility will activate an internal audible fire alarm only. This alarm system will be tested monthly. The sprinkler system when activated will contact the security company ADT, who will notify the fire department and MacDermid's Alarm Security

Investigator. The sprinkler system is tested monthly by ADT for water pressure and signal to the off-site ADT office.

7.5 Preventive Maintenance [40 CFR Section 264.15(a)]

As stated in the Introduction to this Plan, its purpose is to establish an inspection routine to detect malfunctions, deterioration, leaks, and discharges. This Plan shall not be used as a substitute for a routine preventative maintenance plan for facility equipment required to maintain the facility in top operational condition.

7.6 Containment Area Accumulation

If subsequent to inspections, or if at any other time, it is observed that liquids have accumulated in any of the secondary containment areas, the situation will be handled as follows:

- (a) If the exact source of the leaked or spilled material can readily be determined, the material will be identified accordingly, and transferred to an appropriate container.
- (b) If the source or identity of the spill cannot be determined, a sample will be collected and analyzed to see if it exhibits any of the four characteristics of a hazardous waste (ignitability, corrosivity, reactivity or EP toxicity), or to see if it contains any of the hazardous constituents (40 CFR 261, Appendix VII) of any listed wastes stored in the particular containment area. Test methods will be as described in Section 5.7.4

In either case (a) or (b) above, any accumulated liquids in secondary containment areas will be removed as soon as possible to preclude any possibility of overflow.

7.7 Surface Impoundments Inspection [40 CFR Section 264.226]

Not applicable to MacDermid, Inc.

7.8 Waste Pile Inspection [40 CFR Sections 264.253 and 264.254]

Not applicable to MacDermid, Inc.

7.9 Landfill Inspection [40 CFR Section 264.303]

Not applicable to MacDermid, Inc.

7.10 Incinerator Inspection [40 CFR Section 264.347]

Not applicable to MacDermid, Inc.

7.11 Recordkeeping [40 CFR Sections 264.15(b) and (d)]

Hazardous waste storage facility inspection records of MacDermid, Inc. will be kept on-site for three years from the date of inspection. These records will include the date and time of the inspection, the name of the inspector, the type of problem found, and the date and type of any repair performed.

All inspection records must be periodically updated and entered into a Facility Operating Record.

Sample inspection record logs are provided in Appendix M.

8.0 PERSONNEL TRAINING [40 CFR Sections 270.14(b)(12) and 264.16]

8.1 Regulatory Requirements

Federal Regulations (CFR 40) specifically require owners or operators of a Hazardous Waste Management (HWM) facility to prepare an outline of introductory and continuing training programs "to prepare persons to operate or maintain the HWM facility in a safe manner". The regulatory requirements contained in 264.16 regarding employee training are as follows:

- Facility personnel must successfully complete a program of classroom instruction or on-the-job training that teaches them to perform their duties in a way that ensures the facility's compliance with the requirements of this part.
- This program must be directed by a person trained in hazardous waste management procedures and shall include instructions which teach facility personnel hazardous waste management procedures (including contingency plan implementation) relevant to the positions in which they are employed.
- At a minimum, the training program must be designed to ensure that facility personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures, emergency equipment, and emergency systems, including, where applicable:
 - Procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment;
 - Key parameters for automatic waste feed cutoff systems;
 - Communications or alarm systems;
 - Response to fires or explosions;
 - Response to ground water contamination incidents;
 - Shutdown of operations; and
 - Properties and hazardous nature of the hazardous waste at the facility.

- The training document detailed in this plan includes training relevant to the actual tasks at this facility. This plan may include training in the following actual tasks at the facility:
 - Use of personnel protective equipment;
 - Safety measures;
 - Manifest tracking, preparation;
 - Sampling procedures and handling;
 - Facility operation and maintenance;
 - Contingency measures;
 - Facility inspection;
 - Regulatory requirements;
 - Facility recordkeeping;
 - Maintaining site security; and
 - Prevention of fire, spill, and explosion; and
 - Familiarizes employees with the types of wastes handled at the facility and the hazards inherent in the handling of these wastes.
- Facility personnel must successfully complete the training program within six months of their assignment to the facility and must take part in an annual review of the program.
- Facility personnel engaged in hazardous waste activities will not work in unsupervised positions until their training is complete.
- The owner or operator must maintain documentation applicable to the training program outlined in 264.16.

In accordance with 29 CFR 1910.120(p)(7), all designated response personnel at MacDermid, Inc. who are involved with hazardous waste operations will receive at least 24 hours initial training (completed on February 19-20-21, 1990) and 8 hours of refresher training annually, thereafter. Provided under Appendix Y is a list of the personnel who attended the 24 hour training course and the instructor Michael H. Ziskin's qualifications.

At MacDermid, Inc., personnel will only respond to incidental releases of hazardous substances where the substance can be absorbed,

neutralized or otherwise controlled at the time of release by personnel in the immediate area or by maintenance personnel. MacDermid, Inc. personnel will not respond to an uncontrolled "emergency response" as defined under 29 CFR 1910.120(a)(3). In addition, MacDermid, Inc. will not conduct post-emergency response activities. Examples of the releases that will be managed by MacDermid, Inc. personnel are listed below:

- (1) Compatible material spills of 5, 55 and 330 gallon containers.
- (2) Leaks from valves, pumps, hoses of compatible materials.
- (3) Small fires which can be extinguished with on-site fire extinguishers.

8.2 Training Outline

The four elements of personnel training, critical to safe hazardous waste management, are as follows:

A. PERSONNEL SAFETY TRAINING

- Hazards and characteristics of chemical wastes;
- Selection and use of protective clothing and equipment for emergency situations;
- Health effects of chemicals in the work environment.

B. EMERGENCY PLANNING

- Emergency response;
- Contingency planning.

C. FACILITY OPERATION AND MAINTENANCE

- Hazard minimization through proper facility operation and maintenance

D. MAINTAINING RECORDS

- Regulatory compliance

Activities of hazardous waste facilities personnel can be distinguished as follows:

- Routine day-to-day hazardous waste handling, storage, and treatment operations.
- Emergency response activities in accordance with site contingency plan.

Personnel engaged in either of these activities, along with on-site supervisory personnel responsible for routine day-to-day hazardous waste management must be trained in pertinent aspects of proper hazardous waste handling.

Clearly, a training program which would provide the same level of instruction to all on-site personnel is neither workable nor desirable. Training must, therefore, be correlated to job descriptions. Consequently, the individual's position and specific duties will dictate the level of personnel training he or she will receive.

In this report, four (4) types of training programs are presented which are intended to cover all employees who take part in hazardous and CT-regulated waste management. Table 8.1 summarizes the types of training received by all employees requiring training. The department heads and/or Compliance Administrator, and/or designated professionally trained third party (i.e. consultant) will be responsible for the supervision of all training activities. All hazardous waste trainers must be trained in hazardous waste management procedures. The four programs are:

8.2.1 General Training Information Program

This program is intended to provide basic safety training information to all employees. The basic information presented

in this program is a necessary foundation for more specialized training that is orientated to specific jobs. Table 8.2 gives an outline of this classroom training program.

8.2.2 On-The-Job Training Program

This program is geared towards personnel who handle the wastes generated and received at the facility. These workers will be trained in area of marking and labeling containers, inspecting containers from structural defects, using emergency equipment, and shutdown operations. Physical and chemical hazards of the wastes generated and received will also be reviewed under this program. Table 8.3 gives an outline of this training program.

8.2.3 Limited Training at MacDermid Inc.

The Limited Training Program is geared towards personnel having more limited spheres of activity, responsibility and authority. These workers can be trained at a level less comprehensive than that of management personnel. Furthermore, depending upon the specific position, training in one or more areas relative to hazardous waste management might not be necessary.

Table 8.4 gives an outline of this classroom training program.

8.2.4 Broad Training at MacDermid, Inc.

At MacDermid, Inc., a relatively small number of individuals will be in supervisory and decision-making positions

with a degree of authority and responsibility which warrants broad training in all aspects of hazardous waste management pertinent to their facility.

The Broad Training Program is designed to provide management level personnel with the necessary background and perspective for decision-making activities which can impact both the operation and condition of the facility and health and welfare of the surrounding community. This level of instruction is comprehensive and constitutes a detailed overview of all pertinent aspects of hazardous waste management.

Table 8.5 gives an outline of this classroom training program.

8.3 Release Prevention and Response

All facility management personnel must become intimately familiar with the established facility Hazardous Waste Contingency Plan.

Release prevention is the responsibility of each and every worker handling hazardous materials. All personnel involved with operations of the waste facility will be instructed in specific methods of safe waste handling.

All releases of hazardous waste require prompt and deliberate action to minimize hazards to human health and the environment. In the event of any major emergency, it will be necessary to follow the procedures established in the facility Contingency Plan. Such established procedures will be followed as closely as possible; however, in specific emergency situations, the Emergency Coordinator, may deviate from the

procedures to provide a more effective plan for bringing the situation under control. The Emergency Coordinator is responsible for determining which emergency situations require plant evacuation.

MacDermid, Inc. employs an alarm which is sounded to notify personnel of the need to evacuate. Total plant evacuation is called for only by an Emergency Coordinator.

In the event plant evacuation is called for by the Emergency Coordinator, the following actions will be taken:

- (1) The signal for plant evacuation will be activated.
- (2) All vehicle traffic within the plant will cease to allow safe exit of personnel and movement of emergency equipment.
- (3) All personnel, visitors and contractors will immediately leave the plant area.
- (4) No persons shall remain or re-enter the location unless specifically authorized by the person(s) calling for evacuation. In allowing this, the person in charge assumes responsibility for those persons within the perimeter.
- (5) All persons within the building will exit through a primary evacuation route or alternate route as posted on evacuation maps posted throughout the building.
- (6) The rally points are shown on Figure 10.7. Upon exit, the designated rally point coordinators will prepare a list of all MacDermid, Inc. employees at the rally points.
- (7) Contract personnel and visitors should also be listed.
- (8) A final tally of persons will be made by the Emergency Coordinator.
- (9) No attempt to find persons not accounted for will involve endangering lives of others by re-entry into emergency areas.
- (10) Re-entry into the area will be made only after clearance is given by the Emergency Coordinator. At his direction, a signal or other notification will be given for re-entry into the facility.

- (11) In all questions of accountability, immediate superiors will be held responsible for those persons reporting to them. Visitors will be the responsibility of those employees they are seeing. Contractors are the responsibility of those persons administering the individual contracts.

8.3.1 Drills

Drills will be held to practice all of these procedures and are treated with the same seriousness as an actual emergency. A key to release prevention is proper operation and maintenance of the waste facility. The primary prevention tool is an on-going inspection program.

During the on-site training session, the facility Contingency Plan will serve as the basis for discussion in this section.

TABLE 8.1

TRAINING REQUIREMENTS

MACDERMID, INC.
WATERBURY, CONNECTICUT

<u>Job Title</u>	<u>Name</u>	<u>General</u>	<u>Training Type</u>		<u>Broad</u>
			<u>On-The-Job</u>	<u>Limited</u>	
All Manufacturing Employees		X	X		
Compliance Administrator	Cherrie Gillis	X			X
Emergency Coordinator	John Miele	X			X
Alternate Emergency Coordinators (3)	Bill Schweiker	X			X
	Bob Ardziejaskas	X			X
	Frank Cruice	X			X
Driver - Waste Handler	P. Guillet	X	X	X	
	T. Prescott	X	X	X	
	E. Gough (retired)	X	X	X	
	K. Ritucci	X	X	X	
	E. Gray	X	X	X	
Traffic Supervisor for Wastes	L. Montaigne	X		X	
Materials Handler-Recyclable Materials - Group Leader	F. Brown	X		X	
Etchant Production - Group Leader	H. Zembroski	X		X	
True Waste Handler - Solvents/Inks	J. Alperin	X	X	X	
	B. Schweiker	X	X	X	
Quality Control Department	A. Bares	X		X	
Hazardous Waste Coordinator - Canadian Shipments/Non routine Shipments	C. Gillis	X		X	X
Quality Control Manager (Manufacturing)	R. Redline	X		X	
Shipping/Receiving Department - Group Leader	D. Fortier	X		X	
Micro Chemical Handler (Manufacturing)	H. Herminio	X	X	X	

TABLE 8.2
GENERAL TRAINING INFORMATION PROGRAM

MACDERMID, INC.
WATERBURY, CONNECTICUT

I. GENERAL CHEMICAL INTRODUCTION

A. Acids - A hydrogen containing substance which dissociates on solution in water to produce one or more hydrogen ions. Some examples handled at MacDermid:

1. Nitric Acid
 - a. Fumes in air
 - b. Attacks many metals
2. Sulfuric Acid
 - a. Generates extreme heat when mixed with water
 - b. Attacks many metals
3. Hydrochloric Acid
 - a. Fumes in air
 - b. Attacks many metals
4. Hydrofluoric Acid
 - a. Attacks glass as well as metals
5. Chromic Acid
 - a. Dusty when dry
 - b. Attacks many metals as a liquid

NOTE: Always add acids to water (A to W rule). Always use protective equipment when handling

B. Alkaline Materials -A substance having basic properties (pH higher than 7). A Base-dissociates on solution in water to produce one or more hydroxylions. Some examples handled at MacDermid:

1. Sodium Hydroxide (caustic soda)
 - a. Dry or liquid
 - b. Causes severe burns
2. Potassium Hydroxide (caustic potash)
 - a. Dry or liquid
 - b. Causes severe burns
3. Ammonium Hydroxide
 - a. Ammonia odor
4. Sodium Carbonate (soda ash)

NOTE: Hydroxides can cause severe burns that do not appear on immediate contact. Dry material should be added to water with agitation. Always use protective equipment when handling.

TABLE 8.2 (continued)
GENERAL TRAINING INFORMATION PROGRAM

MACDERMID, INC.
WATERBURY, CONNECTICUT

- C. Flammables -Easily ignited. Flash points less than 100 degrees Fahrenheit. Some examples handled at MacDermid:
1. Methanol
 2. Cyastat SP (trade name)
 3. Sodium Hydrosulfite
 4. Any red label item (red diamond with flame)
 5. Cleaning mixing pots/tanks with solvents Required mandatory equipment:
 - a. Organic mist cartridge respirator
 - b. Neoprene gloves
 - c. Protective clothing

NOTE: No smoking when handling. No open flames nearby. Always use grounding stations and protective equipment.

- D. Poisons and Toxic Substances - Materials that through chemical action can kill, injure, or impair. Some examples handled at MacDermid:
1. Cyanides
 2. Darmex (trade name)
 3. Formaldehyde
 4. Metal salts

NOTE: Do not mix cyanides with acid. This generates poisonous fumes. Do not ingest poisons or toxic materials. Avoid breathing fumes or dust. Always use protective equipment when handling.

- E. Oxidizers -Materials which cause oxidation of other substances (chemical addition of oxygen). Temperatures can be reached that may cause ignition of the oxidized material. Some examples handled at MacDermid:
1. Sodium Nitrate
 2. Chromic Acid
 3. Sodium Chlorite
 4. Persulfates

NOTE: Avoid contact with corrosives. Special cases can cause fires - use caution when handling. Always use protective equipment when handling.

TABLE 8.2 (continued)
GENERAL TRAINING INFORMATION PROGRAM

MACDERMID, INC.
WATERBURY, CONNECTICUT

- F. Solvents - (A substance capable of dissolving another substance) Alcohol, Ethyl Acetate, Ethyl Alcohol, Hydro Carbon Solvent, Kerosene, Methanol, Methyl Ethyl Ketone, Organic Solvents, Toluene, Xylene, Xylol. Are usually flammable or combustible liquids. They contribute to air pollution and fire hazards. Inhalation, eyes and skin contact must be avoided. Mandatory equipment:
1. Respirator (type depends on solvent)
 2. Neoprene gloves
 3. Protective clothing

II. PROTECTIVE EQUIPMENT

A. Description

1. Face shields - worn when filling containers or adding chemicals to a mix that could cause splashing. This is optional but mandatory under circumstances as: extracting lab samples from 5 gal., 55 gal. containers, extracting raw material samples from trailer loads, disconnecting acid lines from pumps. Face shields will protect the eyes, face and neck in areas where workers are exposed to hazardous liquids, gases or sprays, or where there is the possibility of being hit by light objects.
2. Fume measuring device - instrument used to measure trace amounts of specific chemical fumes in the air.
3. Safety Glasses - mandatory. Must be worn at all times in the manufacturing areas.
4. Gloves - a safety precaution. Should be worn at all times when handling any and all types of chemicals. Rubber and cloth (for dirty drums, etc.) gloves are available, Neoprene for solvents.
5. Goggles - Full face protection. Used for maximum eye protection to keep dusts, mists, and splashing chemicals from eye contact strongly recommended. Mandatory in areas with severe eye hazards. Workers exposed to fumes or vapors or possible liquid splashes must wear goggles.
6. Grounding station - an electrical mechanical device to eliminate static electrical charges or sparks. Used between containers to transfer flammable materials.
7. Hard hats - worn when working below a platform, recommended. Required where there is the danger of falling objects or chemical splashes.

TABLE 8.2 (continued)
GENERAL TRAINING INFORMATION PROGRAM

MACDERMID, INC.
WATERBURY, CONNECTICUT

8. Harness for tank entry - a safety device worn when entering a confined space. It is used to extricate a person quickly in case of an emergency.
9. Lock out for power equipment - a mechanical device used to make electrically driven equipment inoperable. This is used for maintenance purposes.
10. Respirators - used when working with hazardous dusts and mists. Several types are available and the correct cartridge should be used. Optional but recommended in most cases. Required in some cases.
11. Scrubbers - exhausts which remove hazardous fumes from the air. The fumes are scrubbed with water or with a sodium hydroxide solution (two types of scrubbers) before release to the atmosphere. These are not to be confused with exhaust fans that vent directly to the outside.

B. Clothing

1. Provided by MacDermid
2. Are not chemical resistant
3. Aprons and rubber suits are available

C. Shoes

1. Steel toes required
2. Provided by MacDermid - two pairs per year for each employee.
3. Uppers not usually chemically resistant - soles usually will be.
4. Rubbers or boots are provided, if necessary

First Aid - Emergency treatment of acute poisoning: Acute poisoning may be the result of entry into the body of large or concentrated doses of a poison through:

1. Breathing (inhalation)
2. Swallowing (ingestion)
3. Skin absorption

General Procedures:

a. Inhalation:

1. Remove victim from contaminated area. Rescuers should be properly protected or provided with life lines.

TABLE 8.2 (continued)
GENERAL TRAINING INFORMATION PROGRAM

MACDERMID, INC.
WATERBURY, CONNECTICUT

2. Keep victim warm (not hot) and quiet. Lying flat is usually the best position.
 3. If breathing has stopped, give artificial respiration.
 4. Administer oxygen, if it is available.
 5. Keep breathing passage open. Examine mouth for false teeth and chewing gum and if present, remove them.
- b. Ingestion:
1. Attempt to empty the stomach by causing vomiting by use of an emetic. This should be done even if a period of several hours has passed since the poison was swallowed. Exceptions: Corrosive chemicals such as strong acids or caustic alkalies; victim having convulsions; victim unconscious.
 2. Dilute the poison by administering fluids in any of the following forms:
 - a. Plain tap water: 3-4 glasses.
 - b. Soapy water: 2-3 glasses.
 - c. Table salt in warm water: One tablespoon to an ordinary 8-ounce tumbler.
 - d. Milk: 3-4 glasses
- If these fluids are vomited, which is desirable, the dose may be repeated several times.
3. Give the victim a "universal antidote" i.e. a mixture of powdered burnt toast (charcoal), strong tea, and milk of magnesia. This will absorb and neutralize many poisons. (One piece of toast and 4 tablespoons of milk of magnesia in a cup of strong tea.
- c. Skin contact:
1. Dilute the contaminating substance with large amounts of water. This is best done in a shower, but may also be done with a hose, buckets or other means. The water should be lukewarm if possible.
 2. Remove contaminated clothing. Those assisting the victim should protect their own skin with gloves, if available.

TABLE 8.2 (continued)
GENERAL TRAINING INFORMATION PROGRAM

MACDERMID, INC.
WATERBURY, CONNECTICUT

3. Chemical burns of the eye should be treated with large amounts of water for 15 minutes or with a weak solution of bicarbonate of soda (a level teaspoonful of bicarbonate to 1 quart of warm, clean water).

III. MANUFACTURING EQUIPMENT USAGE

A. Forklift Training

1. Description
 - a. Gas
 - b. Electric
2. Load Limits
 - a. Determined by equipment availability within each department
3. Operation
 - a. Generally on the job training will be provided
 - b. Occasional instruction from Clarklift is provided
4. Maintenance
 - a. Daily check of oil and water
 - b. Routine maintenance under contract with Clarklift
5.
 - a. Check wheels on trucks before entering with forklift
 - b. No racing or wild driving
 - c. Sound horn near blind corners
 - d. No riders on skids or elsewhere

B. Emergency Equipment and Use.

1. Air Packs (Scott) - Self-contained life support system used for any chemical emergency. Located near most often used entrances.
2. Eyewashes - Located throughout each department on the floor and on the platforms. May be in combination with a shower and is used to wash eyes should chemicals come into contact with them.
3. Fire Alarms - There are many pull stations throughout the building and at all exits. You should become familiar with their locations.
4. Fire Blankets - There are a few blankets within the building. They are used to smother a fire on a person's body. You should be aware of their locations.

TABLE 8.2 (continued)
GENERAL TRAINING INFORMATION PROGRAM

MACDERMID, INC.
WATERBURY, CONNECTICUT

5. Fire Extinguishers - There are many located throughout the building. They are general purpose, ABC types, good for any fire in this building. You should be familiar with their location.
6. Fire Hoses - There are a few fire hoses located in the building. They are high pressure and require two people to operate. One holds the hose while the other operates the valve.
7. First Aid Cabinet - Located throughout the building. There is a supply of bandages, antiseptics, etc., for treatment of minor injuries.
8. Oxygen - One unit located in each of the main areas. For emergency treatment only when overcome by fumes or other respiratory emergencies.
9. pH Control - A sterile phosphate buffer solution used to neutralize acid and alkali burns of the eyes or skin.
10. Showers - Located in combination with most eyewash stations. These are for emergency use only. There is also one in each of the two men's rooms in the manufacturing area. These are general purpose as well as for emergencies.
11. Stretcher - There is one stretcher available for emergency use.

C. Production Equipment

1. Each department has an assortment of equipment. Some of this is specialized for that department and some is general equipment available to all departments.
2. On-the-job training will be provided in all phases of the equipment as it pertains to your position.

D. Safety Equipment

1. All items listed in Table 10.2 of the Contingency Plan Protective Equipment are primarily used for safety purposes.

IV. OPERATION

A. Work Flow

1. Order is received from customer.
2. Finished goods inventory is allocated.
3. At some point minimum stock levels are reached and a production order is generated.
4. Raw materials are ordered and received.

TABLE 8.2 (continued)
GENERAL TRAINING INFORMATION PROGRAM

MACDERMID, INC.
WATERBURY, CONNECTICUT

5. Manufacturing schedules and produces the product.
6. Material is placed in finished goods storage.
7. Materials are shipped as needed.

B. Security

1. ADT on manufacturing plant (Gear Street and Huntingdon Avenue)
2. Sonitrol on warehouse (raw and finished) and tanker garage
3. Each department is responsible for securing their location at the close of business.
4. *The storage yard has gates that are locked at the end of the day.*

C. Buddy System

1. No one works alone.
2. Someone always is within shouting distance.

D. Accidents

1. Report immediately to supervisor.
2. File a report regardless of extent of injuries or lack of injuries.
3. Employees will be trained in the basic points of the Contingency Plan and its implementation (e.g. evacuation procedures).

TABLE 8.3 - ON-THE-JOB TRAINING PROGRAM

MACDERMID, INC.

- A. On-the-job training shall be conducted by the Group Leader of each department in Manufacturing.
- B. All wastes that are recycled by MacDermid will have the same or similar hazardous characteristics of materials being manufactured. Thereby, proper handling, hazardous characteristics, personal protective equipment training is one in the same for manufactured and waste materials.
- C. Information on marking, labelling, and proper DOT containers for wastes comes from the Production Manager, Compliance Manager or Process Engineer in Manufacturing each trained in DOT 49 CFR.
- D. Group Leaders of the department supervise new employees with hands-on training by initially walking through all the steps and procedures of the job until he feels confident that person can do the job with little or no supervision.
- E. Basic training will consist of the following:
 - 1. Waste feed cut-off systems as applicable to that job.
 - 2. Procedures for using, inspecting, repairing and replacing facility emergency and monitoring equipment.
 - 3. Communications and alarm systems for the department.
 - 4. Shutdown of operations for that department area.
 - 5. Properties and hazardous nature of hazardous waste and hazardous materials for items handled.
 - 6. OSHA 29 CFR 1910.1200 classroom training is mandatory to all employees when first hired and all employees prior to the Hazardous Communication standards that have been employed by MacDermid, have also had this training.
 - 7. OSHA 29 CFR 1910.120 24 hour training and 8 hour annual refresher depending on the job function.

TABLE 8.4

LIMITED TRAINING

MACDERMID, INC.
WATERBURY, CONNECTICUT

FUNCTION:	Driver - Waste Handler
DUTY:	Transportation - Chemicals
TASK:	<ul style="list-style-type: none">• Pick-up waste reclaim from customer and transport bulk waste etchant to reclaim facility or transfer facility.
ELEMENT:	<ul style="list-style-type: none">• Transports drummed waste reclaim to Waterbury, signs manifest as transporter.• Transports bulk waste reclaim from customer or Production Storage to railcar on Freight St.• Must complete a discrepancy checklist for each manifested shipment picked up.• Signs off as transporter and receiver at Freight St.
QUALIFICATIONS:	Licensed driver for vehicle operated, training in DOT and EPA Transportation Regulations. Should have at least a high school education.
TRAINING:	<ol style="list-style-type: none">1. <u>Personal Protection Equipment</u><ul style="list-style-type: none">• Hart hat, rubber gloves, rain gear (rubber), rubber boots, face mask, safety goggles, safety glasses.2. <u>Hazardous/Characteristics of wastes</u><ul style="list-style-type: none">• Definition of corrosive, oxidizer, flammables, incompatibility, storage for compatibility on truck.3. <u>Waste manifest/labelling system</u><ul style="list-style-type: none">• Requirements for completion of waste labels, requirements for manifest completion.• Drivers carry examples with them in a 3 ring notebook.• Manifest Discrepancy Checklist required with each manifest to be completed and attached to manifest for MacDermid records.

TABLE 8.4 (continued)

LIMITED TRAINING

MACDERMID, INC.
WATERBURY, CONNECTICUT

4. Forklift Operations
 - Daily inspection for fluid levels, leaks, brake, chain failure.
 - Know equipment capacity of truck and weight of what is picked-up.
 - Back down a ramp when carrying a load.
 - Aware truck can flip easily.
 - When leaving truck, turn off completely and set hand brake, Lower forks to ground.
5. Contingency Plan for Drivers
 - Procedure list (call list) for emergencies as state police, telephone numbers in states in which they travel through or pick-up wastes.
 - MacDermid emergency contact numbers as facility.
6. DOT 49 CFR Hazardous Materials - Review
 - Table 172.101/Review Motor Carrier Regulations on loading, unloading, truck safety inspections for lights, brakes, etc.
7. OSHA 29 CFR 1910.120

FUNCTION: Traffic Supervisor for Wastes

TASK: Schedules company truck pick-ups for reclaim wastes and outgoing wastes. Types company bills of lading and railcar manifests. Makes arrangements for railcar shipments for reclaim.

ELEMENT:

- After receipt of shipment of waste, make appropriate mailings for manifests and files for 3 year retention.
- Corrects manifests for addresses, etc. by initialing and dating change.
- Adds method of storage to incoming manifests as S01, S02.

TABLE 8.4 (continued)

LIMITED TRAINING

MACDERMID, INC.
WATERBURY, CONNECTICUT

- Follow-up outgoing manifests to make sure TSDF signed copy is back in 15 days.
- Makes out all state(s) required transportation reports.

EDUCATION: At least a high school education, typing ability.

- TRAINING:
1. Waste Manifest System
 - Areas of manifest needed for completion by generator.
 - Discrepancy requirements/mailling procedures.
 - Recordkeeping (retention)
 2. OSHA 29 CFR 1910.1200
 - Employee's rights
 - Location of MSDS
 - Hcw to read an MSDS.
 - Labelling information
 3. OSHA 29. CFR 1910.120

FUNCTION: Materials Handler - Recyclable Material - Group Leader

DUTY: Logs in manifests - Production/store recycled material.
Supervises loading/unloading wastes/storage/ manifests.

- ELEMENT:
- Supervises application of waste/shipping labels for shipment off-site.
 - Supervises and assists off-loading/loading of wastes using forklift from trucks.
 - Supervises and assists storage of drummed wastes.
 - Inspects storage and keeps inspection book for waste storage

EDUCATION: At least a high school education. Must be able to read/write English. Forklift and truck operation.

TABLE 8.4 (continued)

LIMITED TRAINING

MACDERMID, INC.
WATERBURY, CONNECTICUT

TRAINING:

1. OSHA 29 CFR 1910.120 (24 hour)
2. OSHA 29 CFR 1910.1200
 - Employee's rights
 - Location of MSDS
 - How to read an MSDS.
 - Labelling information
3. Forklift Operations
 - Daily inspection for fluid levels, leaks, brake, chain failure.
 - Know equipment capacity of truck and weight of what is picked-up.
 - Back down a ramp when carrying a load.
 - Aware truck can flip easily.
 - When leaving truck, turn off completely and set hand brake, Lower forks to ground.
4. Manifest/Waste handling System
 - Areas of manifest needed for completion by generator.
 - Discrepancy requirements/mailling procedures.
 - Recordkeeping (retention)

FUNCTION:

Etchant Production - (Group Leaders)

DUTY:

Performs recycling of material/bulk storage/manifests.

Receives in and ships out via manifests, bulk etchant, assists loading/unloading of tanks for bulk spent etchant.

ELEMENT:

- Inspects bulk storage area and keeps inspection book for bulk storage and metal hydroxide sludge are.
- Logs in received and shipped bulk waste etchant.
- Assists loading/unloading bulk waste from tankers.
- Takes samples for waste analysis - etchant and sends to QC.

TABLE 8.4 (continued)

LIMITED TRAINING

MACDERMID, INC.
WATERBURY, CONNECTICUT

EDUCATION:

Should have at least high school education and read/write English.

TRAINING:

1. OSHA 29 CFR 1910.1200
 - Employee's rights
 - Location of MSDS
 - How to read an MSDS.
 - Labelling information
 2. Forklift Operations
 - Daily inspection for fluid levels, leaks, brake, chain failure.
 - Know equipment capacity of truck and weight of what is picked-up.
 - Back down a ramp when carrying a load.
 - Aware truck can flip easily.
 - When leaving truck, turn off completely and set hand brake, Lower forks to ground.
 3. Manifest/Waste handling System
 - Areas of manifest needed for completion by generator.
 - Discrepancy requirements/mailling procedures.
 - Recordkeeping (retention)
 4. 29 CFR 1910.120
 5. Hazardous/Characteristics of wastes
 - Definition of corrosive, oxidizer, flammables, incompatibility, storage for compatibility on truck.
 6. Personal Protection Equipment
 - Hart hat, rubber gloves, rain gear (rubber), rubber boots, face mask, safety goggles, safety glasses.
-

TABLE 8.4 (continued)
LIMITED TRAINING

MACDERMID, INC.
WATERBURY, CONNECTICUT

TASK:	<u>True Waste Handler</u> - Solvents/Inks
DUTY:	Prepare solvents/inks for segregation of type waste, storage, drums for empty bottles/cans and preparation of shipment in accordance to the specific TSDF requirement to be used.
ELEMENT:	<ul style="list-style-type: none">A. <ul style="list-style-type: none">• Obtain correct DOT drums for waste• Mark drums as to type waste (See which TSDF will be utilized)• Store waste in solvent/ink waste area• Keeps incoming/outgoing waste logbook• Prepare manifest documentation• Keeps area inspection logbook• Prepare labeling informationB. <ul style="list-style-type: none">• New Solvents/inks -(Not already analyzed and accepted by a specific TSDF)• Obtain 1 quart sample plus type and percentage of contents, waste characteristics• Send sample to Regulatory Manager for finding TSDFC. <ul style="list-style-type: none">• Arrange for transportation to TSDF
EDUCATION:	Should have at least high school education, 2 to 4 years college education with some chemical back ground would be helpful. Must read/write English.
TRAINING:	<ul style="list-style-type: none">1. <u>OSHA 29 CFR 1910.120</u> (24 hour)2. <u>OSHA 29 CFR 1910.1200</u><ul style="list-style-type: none">• Employee's rights• Location of MSDS• How to read an MSDS.• Labelling information3. <u>Forklift Operations</u><ul style="list-style-type: none">• Daily inspection for fluid levels, leaks, brake, chain failure.

TABLE 8.4 (continued)
LIMITED TRAINING

MACDERMID, INC.
WATERBURY, CONNECTICUT

- Know equipment capacity of truck and weight of what is picked-up.
 - Back down a ramp when carrying a load.
 - Aware truck can flip easily.
 - When leaving truck, turn off completely and set hand brake, Lower forks to ground.
4. Manifest/Waste handling System
- Areas of manifest needed for completion by generator.
 - Discrepancy requirements/mailling procedures.
 - Recordkeeping (retention)
5. Hazardous/Characteristics of wastes
- Definition of corrosive, oxidizer, flammables, incompatibility, storage for compatibility on truck.
6. Personal Protection Equipment
- Hart hat, rubber gloves, rain gear (rubber), rubber boots, face mask, safety goggles, safety glasses.

FUNCTION:	Q.C. Department
TASK:	Analyze incoming recyclable material
ELEMENT:	<ul style="list-style-type: none">• Analyzes recyclable material per established parameters.• Keeps logbook on recycle tracking and logs we received and shipped manifests for recyclable material.• Can reject material with authorization to return to customer.
EDUCATION:	At least high school education and 2 to 4 years chemical background. Must read/write English.
TRAINING:	1. <u>OSHA 29 CFR 1910.120</u> (24 hour)

TABLE 8.4 (continued)
LIMITED TRAINING

MACDERMID, INC.
WATERBURY, CONNECTICUT

2. OSHA 29 CFR 1910.1200

- Employee's rights
- Location of MSDS
- How to read an MSDS.
- Labelling information

3. Forklift Operations

- Daily inspection for fluid levels, leaks, brake, chain failure.
- Know equipment capacity of truck and weight of what is picked-up.
- Back down a ramp when carrying a load.
- Aware truck can flip easily.
- When leaving truck, turn off completely and set hand brake, Lower forks to ground.

4. Manifest/Waste handling System

- Areas of manifest needed for completion by generator.
- Discrepancy requirements/mailling procedures.
- Recordkeeping (retention)

5. Hazardous/Characteristics of wastes

- Definition of corrosive, oxidizer, flammables, incompatibility, storage for compatibility on truck.

6. Personal Protection Equipment

- Hart hat, rubber gloves, rain gear (rubber), rubber boots, face mask, safety goggles, safety glasses.

FUNCTION:

Hazardous Waste Coordinator

Canadian Shipments/Domestic Non-routine shipments

DUTY:

Have unknown wastes analyzed
Prepare TSDF documentation

TABLE 8.4 (continued)
LIMITED TRAINING

MACDERMID, INC.
WATERBURY, CONNECTICUT

- ELEMENT:**
- If wastes "unknown", sends to independent lab for analysis
 - Prepares waste profile for TSDFs for quotation
 - Assures correct packaging and shipping information for labels/paperwork
 - Arranges manifest documentation and shipping arrangements
 - Canadian shipments - Annual report to U.S. and Canadian EPA for acceptance
 - Prepares Canadian and U.S. manifest documentation
 - Arranges transportation
 - Requests written audits from potential TSDFs and requests and keeps files on potential and current waste transporters (Permits and Certificate of Insurance)
 - Establishes procedures for other waste handlers and coordinates their activities by making sure their on-the-job training information is up-to-date with the latest regulations
- EDUCATION:** Should have at least 2 to 4 years college with some chemical background education. Must be able to read/write English. Must have DOT/EPA knowledge.
- TRAINING:**
1. OSHA 29 CFR 1910.1200
 - Employee's rights
 - Location of MSDS
 - How to read an MSDS.
 - Labelling information
 2. OSHA 29 CFR 1910.120
 3. Outside seminars where applicable in EPA/DOT
 4. Use of consultants and written regulations
 - Review Federal Register, publications received from consultants,
 - Call EPA Hot-Line, if any questions.

TABLE 8.4 (continued)
LIMITED TRAINING

MACDERMID, INC.
WATERBURY, CONNECTICUT

5. Hazardous/characteristics of wastes

- Definition of corrosive, oxidizer, flammables, incompatibility, storage for compatibility on truck.

FUNCTION:	QC Manager (Manufacturing)
DUTY:	Wastes analysis
TASK:	Fingerprint analysis
EDUCATION:	Read/speak/write English, degree in chemistry - BS minimum preferred
TRAINING:	<ol style="list-style-type: none">1. <u>OSHA 29 CFR 1910.1200</u><ul style="list-style-type: none">•Employee's rights•Location of MSDS•How to read an MSDS.•Labelling information2. <u>OSHA 29 CFR 1910.120</u>3. <u>Hazardous/characteristics of wastes</u><ul style="list-style-type: none">• Definition of corrosive, oxidizer, flammables, incompatibility, storage for compatibility on truck.

FUNCTION:	Group Leader: Shipping/Receiving Department
DUTY:	Ship/Receive Hazardous Wastes
TASK:	<ul style="list-style-type: none">• Supervise personnel in off-loading waste from carriers and transporting to QC area.• Transporting wastes from berm to ship/receive area and load carriers.
ELEMENT:	<ul style="list-style-type: none">• Sign incoming waste manifests along with discrepancy checklist - see attached, for each received waste - kept on file with manifests.• Group Leader supervises personnel to do above.

TABLE 8.4 (continued)
LIMITED TRAINING

MACDERMID, INC.
WATERBURY, CONNECTICUT

EDUCATION: Prefer a High School background, read/write/speak English. Forklift operation.

- TRAINING:
1. OSHA 29 CFR 1910.120 (24 hour)
 2. OSHA 29 CFR 1910.1200
 - Employee's rights
 - Location of MSDS
 - How to read an MSDS.
 - Labelling information
 3. Forklift Operations
 - Daily inspection for fluid levels, leaks, brake, chain failure.
 - Know equipment capacity of truck and weight of what is picked-up.
 - Back down a ramp when carrying a load.
 - Aware truck can flip easily.
 - When leaving truck, turn off completely and set hand brake, Lower forks to ground.
 4. Hazardous/Characteristics of wastes
 - Definition of corrosive, oxidizer, flammables, incompatibility, storage for compatibility on truck.
 5. Personal Protection Equipment
 - Hart hat, rubber gloves, rain gear (rubber), rubber boots, face mask, safety goggles, safety glasses.

FUNCTION: Micro Chemical Handler (Manufacturing)

DUTY: Transfer/Inspect Hazardous Wastes

- TASK:
- Mark/label waste containers
 - Transfer waste from pails to drums
 - Assist preparing waste shipments/documentation and weekly inspection logs.

ELEMENT: Prepare wastes for shipment and responsible for berm.

TABLE 8.4 (continued)
LIMITED TRAINING

MACDERMID, INC.
WATERBURY, CONNECTICUT

EDUCATION: Read/speak/write English, prefer High School background

- TRAINING:
1. OSHA 29 CFR 1910.120 (24 hours, if applicable)
 2. OSHA 29 CFR 1910.1200
 - Employee's rights
 - Location of MSDS
 - How to read an MSDS.
 - Labelling information
 3. Forklift Operations
 - Daily inspection for fluid levels, leaks, brake, chain failure.
 - Know equipment capacity of truck and weight of what is picked-up.
 - Back down a ramp when carrying a load.
 - Aware truck can flip easily.
 - When leaving truck, turn off completely and set hand brake, Lower forks to ground.
 4. Hazardous/Characteristics of wastes
 - Definition of corrosive, oxidizer, flammables, incompatibility, storage for compatibility on truck.
 5. Personal Protection Equipment
 - Hart hat, rubber gloves, rain gear (rubber), rubber boots, face mask, safety goggles, safety glasses.
-

TABLE 8.5

BROAD TRAINING

MACDERMID, INC.
WATERBURY, CONNECTICUT

1. COMPLIANCE ADMINISTRATOR - CHERRIE D. GILLIS

Job Description

- a. Responsible for implementation of the Hazardous Waste Management Program at the facility. Must know the compliance requirements and procedures required by the Connecticut DEP and EPA.
- b. Assures the proper identification of hazardous wastes generated at the facility.
- c. Establishes procedures to monitor the disposition of hazardous wastes from generation to ultimate disposal and monitors these activities as necessary.
- d. Assures that containers are properly handled, packaged and labelled.
- e. Selects approved transport and disposal contractors and sites.
- f. Prepares and signs manifest papers when applicable.
- g. Coordinates reporting activities to regulatory agencies.
- h. Collects and maintains records in accordance with recordkeeping requirements.
- i. Coordinates personnel training activities.
- j. Conducts limited classroom waste training for specific personnel who handle wastes when review of regulations, manifest/waste labelling system, separation and compatibility of chemicals plus 29 CFR 1910.1200.
- k. Must know the appropriate information required to notify regulatory agencies, and the internal procedures for notifying regulatory agencies.
- l. Must know the liabilities for failure to properly notify or respond to an emergency.

TABLE 8.5 (continued)

BROAD TRAINING

MACDERMID, INC.
WATERBURY, CONNECTICUT

Training Requirements

The Compliance Administrator will be trained by reviewing regulatory requirements, attending seminars, use of outside consultants and by on-the-job experience. The training requirements for this position include:

- a. Must have read and be familiar with facility compliance requirements, procedures, and plans before assuming this function.

Review Federal Register; attend seminars; review publications published by consultants, EPA/DEP, private companies, etc.

- b. May participate in, the training program given to facility personnel involved in hazardous waste management.

- c. Knowledge of hazardous/characteristics of wastes on-site.

Review waste analysis reports, meet with Research Personnel to discuss process developing wastes.

2. FACILITY EMERGENCY RESPONSE COORDINATORS - JOHN MIELE

ALTERNATES: BILL SCHWEIKER
BOB ARDZIJAUSKAS
FRANK CRUICE

Job Description

- a. Designated authority
- b. In the event of an emergency, responsible for immediate implementation and coordination of all notification and emergency response procedures as designated in the Contingency Plan.
- c. Must know how to identify and assess an emergency condition, and under what conditions to notify local authorities.
- d. Must know how to activate appropriate alarms, evacuate personnel if necessary, and notify local authorities.

TABLE 8.5 (continued)

BROAD TRAINING

MACDERMID, INC.
WATERBURY, CONNECTICUT

- e. Must know what arrangements have been made with local authorities.
- f. Must know facility personnel to contact to initiate emergency response procedures.
- g. Must know the appropriate emergency response procedures to implement and how to locate and use the emergency response equipment.
- h. Must know the appropriate information required to notify regulatory agencies, and the internal procedures for notifying regulatory agencies.
- i. Must know the liabilities for failure to properly notify or respond to an emergency.
- j. Decision as to call outside authorities for assistance.
- k. Decision as to evacuation.

Training Requirements

- a. Will be trained by reviewing regulatory requirements, attending seminars, use of outside consultants and on the job experience.
- b. Must have read and be familiar with the information and procedures contained in the Contingency Plan.

Working knowledge of where waste and virgin materials are stored; chemical and physical hazards of these wastes; evacuation procedures; location of emergency equipment.

- c. Must be trained in the notification procedures in the Contingency Plan, including conditions requiring notification, timing of notification, personnel to notify, local authorities to notify, notification information required, and recording notification events.

TABLE 8.5 (continued)

BROAD TRAINING

MACDERMID, INC.
WATERBURY, CONNECTICUT

- d. Must be trained in emergency response procedures identified in the Contingency Plan, including location and use of all emergency response equipment, coordination with local authorities, containment procedures, remedial procedures, and storage and disposal of recovered materials.
- e. Must be trained in personnel utilization in emergency response activities, including types of personnel to be utilized in emergency response situations, the nature and extent of their duties, and prior training required for proper performance of those duties.
- f. Must have OSHA 29 CFR 1910.120 (24 hour) training.
- g. Fork lift training, as applicable.
 - Daily inspection for fluid levels, leaks, brake, chain failure.
 - Know equipment capacity of truck and weight of what is picked-up.
 - Back down a ramp when carrying a load.
 - Aware truck can flip easily.
 - When leaving truck, turn off completely and set hand brake, Lower forks to ground.
- h. Training on-the-job, in-house seminar when available, reviewing regulatory requirements, use of outside consultants.
- i. Knowledge of hazardous/characteristics of wastes on-site.

Definition of corrosive, oxidizer, flammables, incompatibility, storage for compatibility on truck.
- j. Knowledge of personal protection equipment.

Location of equipment, type of equipment, equipment capabilities.

9.0 PREPAREDNESS AND PREVENTION [40 CFR 264 Subpart C, 270.14(b)(8), 270.14(b)(9) & 270.15(a)]

9.1 Preparedness and Prevention

Provided in this section of the Permit Application are:

1. Details regarding the design and operation of the MacDermid, Inc. facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or constituents to air, soil or surface water which could threaten human health or the environment.
2. Descriptions of required emergency equipment at the facility.
3. Descriptions of procedures for emergency communications and alarm systems.
4. Descriptions of access to emergency communications and alarm systems.
5. Descriptions of maintenance of accessible aisle spacing.
6. Description of emergency procedures.

Compliance with these items is described in the following sections.

9.1.1 Design of Facilities [40 CFR 264.31, 270.14(b)(8)(i) and (8)(ii) and 270.15(a)]

(1) Container Loading and Unloading Areas

The loading and unloading of 5 gallon containers, 55 gallon drums and 330 gallon storage totes of wastes takes place at the East Aurora Street shipping and receiving loading/unloading dock. The location of this dock is shown on Figure 2.1.

The loading/unloading dock is located on the south side of the container storage warehouse. This area, which is approximately 15' x 115' consists of a concrete floor sloped from the 4 inch high loading dock to the storage level. Any spillage within this area will be contained by

virtue of the sloped concrete floor, concrete berm along the doors and a masonry block wall that surrounds the loading dock area. The floor, walls and berms in the loading dock area are free of any cracks or gaps.

The containers within this area will be stored only two high, design load capacity of approximately 4 lbs/in². Consequently, the structural integrity of the concrete floor, which has a minimum design load capacity of 1,500 lbs/in², will be more than adequate.

The loading of the dewatered metal hydroxide/ sulfide sludge (no free liquids) at MacDermid, Inc. occurs at the metal hydroxide sludge storage area (see Figure 2.1). This sludge, which is generated on-site, is disposed of directly into a 26 cubic yard roll-off. The roll-off is equipped with a drop-in liner and is located inside the facility building.

When the roll-off is full, the roll-off is removed from the facility building via a garage door (see Figure 4.4). A concrete pad is located outside the garage door to support the transport truck and full roll-off. Secondary containment is provided in this area by means of a concrete floor, building walls and concrete berm located in front of the garage door. Any spills within this area will be discharged to the wastewater treatment system by the floor trench.

(2) Bulk Loading and Unloading Area

The loading and unloading of bulk liquids at MacDermid, Inc. takes place inside the facility building located east of the Huntingdon Avenue gate (see Figure 2.1).

The concrete floor of this building has trenches leading to a collection sump located within the center of the room. Any spillage within this area will drain to the collection sump and be discharged directly to the industrial waste water treatment system for on-site treatment.

(3) Container Storage Areas

EPA regulations require that container storage areas, where the containers can hold free liquids, must be provided with a secondary containment system capable of holding 10% of the volume of the containers or the volume of the largest container, whichever is greater. State of Connecticut regulations, however, require that secondary containment be provided for 10% of the storage capacity plus the volume of the largest storage container.

The storage of containers at MacDermid, Inc.'s Huntingdon Avenue facility take place at the following locations:

- Main Container Storage Area;
- Flammable Material Storage Area;
- Combustible Storage Area; and
- Metal Hydroxide/Sulfide Storage Area.

The general locations of these storage facilities are shown on Figure 2.1.

(a) Main Container Storage Area

The main container storage area, which is located on the north side of the East Aurora Street warehouse, has been designed to allow for storage of 77,000 gallons of compatible materials. The dimensions of this area are approximately 42' wide and 93' long.

All containers (except 330 gallon storage totes) within this area are stored on wooden pallets and placed on five tier metal racks. On the metal racks, all pallets of containers are separated by a minimum of twelve (12) inches. The pallets are not stored on top of one another.

The storage totes are stored directly on the floor in the open areas located at the north and south ends of this area. The cube storage totes are stored a maximum of two high (see Section 2.3) and the circular totes, one high.

The type of forklift utilized on the metal racks is "steered" through the aisles by a system known as Portec Wire Guidance (see Appendix G). This system electronically controls the direction of the fork truck. With this system, there is little or no potential for a fork lift to accidentally hit a rack. This system

is utilized throughout the ware house storage area. Placement of pallets on racks is accomplished with manual operated lifts.

To allow for inspection, the metal racks which are stationed along the walls and stationed two deep within the middle of the storage area (see Figure 4.1) are separated by a minimum of 6'9" wide aisles. The storage totes which are stored a maximum of one deep are separated by 2' wide aisles.

Secondary containment is provided within this area by means of an epoxy coated concrete floor, building walls¹, 3½" concrete berm and a 200 gallon collection sump. Any spills/leaks, in this area will drain to the collection sump via the two (2) floor drains. From the sump, which is equipped with a manually operated control valve, all collected waste after visual/chemical inspection by MacDermid's personnel is either discharged to the 60,000 gallon waste water treatment tank (part of the industrial waste water treatment system) for on-site treatment or transferred to 55 gallon drums for off-site disposal. The volume of secondary containment provided by this area (see Figure 9.1) is calculated on the following page to be 8,425 gallons. The volume

¹NOTE: Building walls will be epoxy coated to a height of at least 3" by August 1, 1990.

of secondary containment required for this area which is based on 10% of the entire storage volume plus 100% of the largest container is 8,030 gallons.

The concrete floor slabs are believed to be constructed of 6" of Class A concrete underlain by 4" of crushed stone. Class A concrete has a minimum compressive strength of 3,000 psi². Based upon the storage area configuration, the expected loadings on the floors are approximately 1,000 psi, indicating a factor of safety of 3. This condition is verified by the absence of any cracks in the floor in the area of the floor slab.

Information regarding the storage racks' capability of supporting the theoretical maximum loading is provided in Appendix W.

² Section M.03 Portland Cement Concrete, State of Connecticut Department of Transportation, Standard Specifications for Roads, Bridges and Incidental Construction, Form 813, 1985.

**US EPA New England
RCRA Document Management System
Image Target Sheet**

RDMS Document ID # 100863

Facility Name: MACDERMID INC

Facility ID#: CTD001164599

Phase Classification: R-1B

Purpose of Target Sheet:

☒ **Oversized (in Site File)** ☐ **Oversized (in Map Drawer)**

☐ **Page(s) Missing (Please Specify Below)**

☐ **Privileged** ☐ **Other (Provide
Purpose Below)**

Description of Oversized Material, if applicable:

FIGURE 9.1: SECONDARY CONTAINMENT
CALCULATION FOR THE MAIN CONTAINMENT
STORAGE AREA

☒ **Map** ☐ **Photograph** ☐ **Other (Specify Below)**

*** Please Contact the EPA New England RCRA Records Center to View This Document ***

MAIN CONTAINER STORAGE AREA CONTAINMENT CAPACITY

Rectangular Areas (II, III, & IV)

$$\begin{aligned} &= 25' \times 30.5' \times 0.29' \\ &+ 68.5' \times 41.5' \times 0.29' \\ &+ 3' \times 18' \times 0.29' \\ &= 1061 \text{ ft}^3 \\ &= 1061 \text{ ft}^3 \times 7.48 \text{ gal/ft}^3 \\ &= 7936 \text{ gallons} \end{aligned}$$

Triangle Area (I)

$$\begin{aligned} &= 0.5 [25' \times 30.5' \times 0.29'] \\ &= 111 \text{ ft}^3 \\ &= 111 \text{ ft}^3 \times 7.48 \text{ gal/ft}^3 \\ &= 830 \text{ gallons} \end{aligned}$$

Storage Totes Area

$$\begin{aligned} &= 20 [(3.14 \times (3.67')^2 \times 0.29') + 4] \\ &= 61 \text{ ft}^3 \\ &= 61 \text{ ft}^3 \times 7.48 \text{ ft}^3/\text{gal} \\ &= 456 \text{ gallons} \end{aligned}$$

Rack Legs Area (108 "U" shaped angle irons)

$$\begin{aligned} &[(.04' \times .18') 2 + (.25' \times .04')] 108 \text{ } .29' \\ &= .79 \text{ ft}^3 \left(\frac{7.48 \text{ gal.}}{\text{ft}^3} \right) = 6 \text{ gallons} \end{aligned}$$

Lab Sink Area

$$8' \times 2.67' \times .29' = 6.19 \text{ ft}^3$$

$$6.19 \text{ ft}^3 \times 7.48 \text{ gal/ft}^3 = 46 \text{ gallons}$$

Ramp

$$(.5' \times .29' \times 6') + ((.29' \times 6' \times 4') \div 2) = 4.35 \text{ ft}^3$$

$$4.35 \text{ ft}^3 \times 7.48 \text{ gal/ft}^3 = 33 \text{ gallons}$$

Collection Sump

200 gallons

TOTAL CONTAINMENT = Rectangular Areas + Triangle Area + Collection Sum -
Storage Totes Area - Rack Legs - Lab Sink - Ramp

$$= 7936 + 830 + 200 - 456 - 6 - 46 - 33$$

$$= 8,425 \text{ gallons}$$

(b) The Combustible Storage Area

The combustible storage area, which is located on the south side of the Gear Street building (Figure 2.1), has been designed to allow for storage of 4,290 gallons of aqueous materials. Within this area, a maximum of fifty-four, 55-gallon drums and four, 330-gallon storage totes are stored at any one time. This storage volume includes the one, 55 gallon satellite storage drum which is used to store the flammable wastes generated from the surrounding work areas.

All 55-gallon drums are stored on wooden pallets and stored a maximum of two high. The storage totes which are stored only one (1) high are stationed directly on the floor.

To provide MacDermid personnel easy access for inspection and handling, the rows of containers are separated by 2'-4.5' wide aisles.

Secondary containment for this 24' x 24' area is provided by an epoxy coated concrete floor, building walls³ and epoxy coated 3" angle iron berms. The volume of secondary containment provided by this area (see Figure 4.2) is calculated

³ NOTE: Building walls will be epoxy coated to a height of at least 3" by August 1, 1990.

on the following page to be 764 gallons. The volume of secondary containment required for this area which is based on 10% of the entire storage volume plus 100% of the largest container is 759 gallons.

The concrete floor slabs are believed to be constructed of 6" of Class A concrete underlain by 4" of crushed stone. Class A concrete has a minimum compressive strength of 3,000 psi⁴. Based upon the storage area configuration, the expected loadings on the floors are approximately 1,000 psi, indicating a factor of safety of 3. This condition is verified by the absence of any cracks in the floor in the area of the floor slab.

⁴Section M.03 Portland Cement Concrete, State of Connecticut Department of Transportation, Standard Specifications for Roads, Bridges and Incidental Construction, Form 813, 1985.

COMBUSTIBLE STORAGE AREA CONTAINMENT CAPACITY

Rectangular Area

$$\begin{aligned} &= 24' \times 24' \times .25' \\ &= 144 \text{ ft}^3 \\ &= 144 \text{ ft}^3 \times 7.48 \text{ gal/ft}^3 \\ &= 1077 \text{ gallons} \end{aligned}$$

Concrete Platforms and Ramp

$$\begin{aligned} &= 7.41' \times 4.41' \times .25' + \\ &\quad 7.25' \times 4' \times .25' + \\ &\quad 6' \times 3' \times .25' \\ &= 20 \text{ ft}^3 \\ &= 20 \text{ ft}^3 \times 7.48 \text{ gal/ft}^3 \\ &= 150 \text{ gallons} \end{aligned}$$

Storage Totes Area

$$\begin{aligned} &= 5 [(3.14 \times (3.67')^2 \times .25') + 4] \\ &= 13 \text{ ft}^3 \\ &= 13 \text{ ft}^3 \times 7.48 \text{ gal/ft}^3 \\ &= 97 \text{ gallons} \end{aligned}$$

Floor Slope Area

$$\frac{(0.63' \times 0.19' \times .90')}{2} = 5.4 \text{ ft}^3$$

$$= 5.4 \text{ ft}^3 (7.48 \text{ gallons/ft}^3)$$

$$= 40 \text{ gallons}$$

Pallet Areas (only part of pallet is in containment)

Bottom of Pallet + % of Braces in Containment Area

$$[.33' \times .083' \times 3.5'] 3 + [(.125' \times .29' \times 3.5') (3) (57\%)]$$

$$= .5 \text{ ft}^3 (7 \text{ pallets}) = 3.5 \text{ ft}^3$$

$$= 3.5 \text{ ft}^3 (7.48 \text{ gallons/ft}^3) = 26 \text{ gallons}$$

TOTAL CONTAINMENT = Rectangular Area - Concrete Platforms and
Ramp - Storage Totes Area -
Pallets - Floor Slope Area

$$= 1077 - 150 - 97 - 40 - 26$$

$$= 764 \text{ gallons}$$

(c) Flammable Material Storage Area

The flammable material storage area, which is located at the north end of the Gear Street building (see Figure 2.1), is used to store a maximum of sixteen, 55-gallon drums or 880 gallons.

To allow for inspection, the two rows of containers are separated by a two (2) foot wide aisle. All containers are stored on 42" x 42" wooden pallets to prevent contact with any spilled/ leaked material.

Secondary containment is provided for this area which measures 8'1" wide by 10' long by means of an epoxy coated concrete floor and epoxy coated 4" angle iron berm (see Figure 4.3). Located outside this storage area is a floor trench. This floor trench is used to collect any spillage/leakage from the building's process operations. From this floor trench, all accumulated liquid is discharged to the industrial waste water treatment system.

The volume of secondary containment provided by this area is calculated on the following page to be 184 gallons. The volume of secondary containment required for this area which is based

on 10% of the entire storage volume plus 100% of the largest container is 143 gallons.

The concrete floor slabs are believed to be constructed of 6" of Class A concrete underlain by 4" of crushed stone. Class A concrete has a minimum compressive strength of 3,000 psi⁵. Based upon the storage area configuration, the expected loadings on the floors are approximately 1,000 psi, indicating a factor of safety of 3. This condition is verified by the absence of any cracks in the floor in the area of the floor slab.

⁵Section M.03 Portland Cement Concrete, State of Connecticut Department of Transportation, Standard Specifications for Roads, Bridges and Incidental Construction, Form 813, 1985.

FLAMMABLE MATERIAL STORAGE AREA CONTAINMENT CAPACITY

Rectangular Area

$$= 8.1' \times 10' \times 0.33'$$

$$= 27 \text{ ft}^3$$

$$= 27 \text{ ft}^3 \times 7.48 \text{ gal/ft}^3$$

$$= 202 \text{ gallons}$$

Pallets

Bottom of Pallet + % of Braces in Containment Area

$$(.33' \times .083' \times 3.5') 3 + (.125' \times .29' \times 3.5') 3 (85\%)$$

$$= .61 \text{ ft}^3 (4 \text{ pallets}) = 2.44 \text{ ft}^3$$

$$= 2.44 \text{ ft}^3 \times 7.48 \text{ gallons/ft}^3 = 18 \text{ gallons}$$

TOTAL CONTAINMENT = Rectangular Area - Pallet Area

$$= 202 - 18 = 184 \text{ gallons}$$

(d) Metal Hydroxide/Sulfide Sludge Storage Area

To store the dewatered metal hydroxide/sulfide sludge generated from MacDermid's on-site industrial waste water treatment system, a single 26 cubic yard roll-off with a drop-in liner is used. This roll-off is located in the northwestern corner of the Huntingdon Avenue facility (see Figure 2.1).

No spare roll-offs are kept on hand at MacDermid, Inc. The waste hauler drops off an empty roll-off when removing the full one.

A general layout of the area used to house the roll-off is provided as Figure 4.4. Secondary containment is provided in this area by means of a concrete floor, building walls, and concrete berm located in front of the garage door. Any spills within this area will, therefore, be retained within the storage area and discharged to the wastewater treatment system by the floor trench.

Discharges from this floor trench will be collected in one of the two wastewater treatment system's 60,000 gallon batch holding tanks. Both of these tanks are equipped with high level alarms (see Section 9.1.4.2).

(4) Waste Storage Tanks

At MacDermid, Inc. four (4) above ground FRP tanks are used for the storage of wastes prior to recycling. A maximum of 29,000 gallons of storage is provided by the tanks as listed below:

<u>Tank</u>	<u>Volume</u>	<u>Intended Use</u>
1	8,000 gal.	Spent Copper Etchant
2	8,000 gal.	Spent Copper Etchant
3	8,000 gal.	Spent Copper Etchant
4	5,000 gal.	Spent Copper Etchant

In addition to these four waste storage tanks, a single 6,000 gallon FRP is used to store virgin sodium hydroxide in this area.

The location of these tanks, as shown on Figure 2.1, is in the northwestern section of the Huntingdon Avenue building.

Secondary containment is provided for these tanks by means of an epoxy coated concrete floor, epoxy coated building walls and 2'7" high epoxy coated concrete berms located at both entrance ways (see Figures 4.6 and 4.7). The volume of secondary containment provided in this area is calculated on the following page to be 13,509 gallons.

The volume of secondary containment required for this area which is based on 10% of the entire storage

volume plus 100% of the largest container is 11,500 gallons.

The concrete floor slabs are believed to be constructed of 6" of Class A concrete underlain by 4" of crushed stone. Class A concrete has a minimum compressive strength of 3,000 psi⁶. Based upon the storage area configuration, the expected loadings on the floors are approximately 1,000 psi, indicating a factor of safety of 3. This condition is verified by the absence of any cracks in the floor in the area of the floor slab.

⁶Section M.03 Portland Cement Concrete, State of Connecticut Department of Transportation, Standard Specifications for Roads, Bridges and Incidental Construction, Form 813, 1985.

WASTE STORAGE TANKS CONTAINMENT CAPACITY

Rectangular Area

$$= 56.5' \times 17.25' \times 2.58'$$

$$= 2515 \text{ ft}^3$$

$$= 2515 \text{ ft}^3 \times 7.48 \text{ gal/ft}^3$$

$$= 18,812 \text{ gallons}$$

Storage Tanks Area

$$= 3 [(9.67')^2 \times 3.14 \times 2.58'] + 4] +$$
$$1 [(10')^2 \times 3.14 \times 2.58'] + 4] +$$
$$1 [(8.5')^2 \times 3.14 \times 2.58'] + 4]$$

$$= 917 \text{ ft}^3$$

$$= 917 \text{ ft}^3 \times 7.48 \text{ gal/ft}^3$$

$$= 6,859 \text{ gallons}$$

Trench Area

$$[.6'(8')(43.25')]$$

$$= 208 \text{ ft}^3 (7.48 \text{ gal/ft}^3)$$

$$= 1,556 \text{ gallons}$$

$$\text{CONTAINMENT VOLUME} = \text{Rectangular Area} - \text{Storage Tanks Area} - \text{Trench Area}$$

$$= 18,812 - 6,859 + 1,556$$

$$= 13,509 \text{ gallons}$$

9.1.2 Operation of Facility

- (1) All container loading/unloading operations will be carried out with extreme care so as to minimize the possibility of damaging any containers. Such operations will be carried out only by an experienced fork-lift operator and under the supervision of the Plant Manager and/or Operation Foreman.

During all loading/unloading operations, at least ten (10) bags of absorbent and three (3) empty open-head drums will be maintained on hand inside the East Aurora Street material warehouse in the event that spills occur during said operations. No smoking, open flames, welding, metal working, or other activities which may initiate a spark will be allowed within 50 feet of ignitable hazardous wastes.

The specific procedures for loading, unloading, and transporting container shipments are as follows:

- (a) Unloading Operations for Containers at East Aurora Street
 - Container trucks will enter through the receiving gates located on East Aurora Street and park adjacent to the loading/unloading dock. The driver of the truck will then report to the warehouse office.

- If the material is accepted by the warehouse personnel and/or office personnel (designated for storage or recycling), the driver will be instructed to proceed to the container unloading area.
- While unloading, the warehouse personnel will inspect the load to determine if any containers are damaged, unsealed, leaking, improperly marked or not numbered according to the manifest.
- Any damaged container will be transferred to an overpack container, sealed, and properly labelled prior to being unloaded.
- If any discrepancies are discovered, MacDermid, Inc. will telephone the generator or transporter to reconcile the discrepancy and within twenty (20) days, submit a report to the CT-DEP describing the discrepancy and the attempts to reconcile it.
- For wastes received from MacDermid's 245 Freight Street facility (excluding used surface finishing chemicals), the Shipping/Receiving Group Leader or his assistant will review the analytical data (see Section 5.4.2) to determine if the waste load is acceptable for on-site storage. If accepted, the load will be transported to the appropriate storage area and stored on 42" x 42" pallets to prevent contact with free standing liquids (except storage totes). If not accepted, the rejected containers will be loaded back onto the truck and the driver will be instructed to return the waste load to 245 Freight Street.
- For used surface finishing chemicals received on MacDermid's carriers and off-site MacDermid facilities, the load will be transported to the Quality Control area for spot testing. Used surface finishing

chemicals received from independent carriers will be spot tested on the East Aurora Street warehouse dock. Based on the results of these tests (see Section 5.4), the waste load will either be transported to the appropriate storage area on 42" x 42" pallets (except totes) or rejected and returned to the customer/off-site MacDermid facility.

- Drivers of independent carriers will be instructed to receive their completed paperwork (manifest) from the shipping/receiving office when the load is unloaded and accepted for storage.
- Drivers of MacDermid vehicles will be instructed to leave their paperwork (manifest) at the shipping/receiving office. The manifest will be completed only after the load has been accepted for storage (see Section 5.4).
- Any spills or leaks from the containers will be cleaned up, as soon as they are detected, and the area decontaminated.

(b) Loading Operations for Containers at East Aurora Street

The specific procedures for loading 5 gallon containers, 55 gallon drums and 330 gallon storage totes are as follows:

- Container trucks will enter through the receiving gates located on East Aurora Street and park adjacent to the loading/unloading dock. The driver of the truck will report to the warehouse office.
- The warehouse personnel will inspect the load to make sure all containers are in good condition and properly marked and labelled.

- Any damaged container will be transferred to an overpack container, sealed, and properly labelled prior to being loaded onto the truck.
- When the truck is loaded, the driver will be instructed to receive his completed paperwork (manifest) from the shipping/receiving office.
- Any spills or leaks from the containers will be cleaned up, as soon as they are detected, and the area decontaminated.

(c) Loading Operations for Roll-Off

The specific procedures for loading the 26 cubic yard roll-off of dewatered metal hydroxide/sulfide sludge are as follows:

- All trucks will enter the site via the Huntingdon Avenue gate. To obtain access through this locked gate, the driver will activate the bell in the manufacturing area to contact the manufacturing personnel. Upon entering the site, the driver will be directed to the roll-off loading/unloading area. The entrance gate will be closed by the manufacturing personnel.
- Prior to actual loading of the roll-off on the truck, the manufacturing personnel will inspect the roll-off to make sure the tarp is securely attached.
- When the truck is loaded, the driver will be instructed to receive his completed paperwork (manifest) from the shipping/receiving office.

d) On-site Container Transporting

- The warehouse personnel will inspect all containers to make sure all containers are in good condition and properly marked and labelled prior to being transported to the recycling area or the loading/unloading dock.
- The material within any damaged container will be transferred to an approved container prior to being transported to the recycling area or the loading/unloading dock.
- Upon approval from warehouse personnel, each drum is transported to the container recycling area or the loading/unloading dock by an experienced operator using a barrel grabber or forklift. With the forklift, a maximum of four, 55 gallon drums on a wooden pallet will be moved at a time. All container transporting will be performed on concrete and asphalt.

(e) Loading Satellite Storage Containers

At the MacDermid, Inc. Huntingdon Avenue facility, satellite storage containers are stored in the combustible storage area (one, 55 gallon drum) and the flammable material storage area (a maximum of two, 55 gallon drums). The specific procedures for transferring waste into the satellite storage drums are as follows:

- Prior to emptying the contents into the 55 gallon satellite drum, the laboratory technician will verify that the 55 gallon drum is in sound condition (e.g. no dents,

bung is not missing, etc.) and properly marked with hazardous waste and DOT warning labels.

- To eliminate spillage, a funnel will be used with all transferring operations.
- Following the addition or removal of waste, the bung will be replaced and leaks/spills will be cleaned up, and the area decontaminated.
- When the satellite storage container in the combustible storage area is full, it will be moved to the flammable material storage area.

(2) Bulk Loading/Unloading Operations

All bulk material transfers at the tank loading/unloading area are carried out with extreme care and caution so as to minimize the occurrence of leaks or discharges from truck fittings and related storage tank structures. During loading and unloading, an operator will be present at all times to ensure that an overflow of waste does not occur.

The specific procedures for loading and unloading bulk liquid shipments are as follows:

(a) Unloading Operations for Bulk Material

- All bulk material will be delivered on-site via the Huntingdon Avenue gate. To obtain access through this locked gate, the driver will activate the bell in the manufacturing area to contact manufacturing personnel. Upon entering

the site, the driver will be directed to the bulk loading/unloading area. The entrance gate will be closed by manufacturing personnel.

- The truck will be gauged and sampled as necessary in accordance with the procedures specified in the Waste Analysis Plan (See Section 5.0).
- Prior to actual unloading, the manufacturing personnel will determine tank storage capacity by noting the external site gauge located on each tank (see Operating Logs in Section 11.0) to determine if the contents of the truck will fit into the tank(s) being pumped into (prevent overflowing of any tank). To further prevent the possibility of overfilling tanks, high level sensors with audible and visual signals have been installed on all bulk tanks.
- Any spills or leaks from the truck discharge piping will be cleaned up, as soon as they are detected, and the area decontaminated.
- When the truck is unloaded, the driver will be instructed to receive his completed paperwork (manifest) from the traffic department.

(b) Loading Operations for Bulk Material

- All trucks for bulk pick-up will enter the site via the Huntingdon Avenue gate. To obtain access through this locked gate, the driver will activate the bell in the manufacturing area to contact the manufacturing personnel. Upon entering the site, the driver will be directed to the bulk loading/unloading area. The entrance gate will be closed by the manufacturing personnel.

- Prior to actual unloading, the manufacturing personnel will determine tank storage capacity by noting the external site gauge located on each tank (see Operating Logs in Section 11.0) to determine the quantity of material available for transfer. This will prevent overfilling the truck.
- Any spills or leaks from the truck discharge piping will be cleaned up, as soon as they are detected, and the area decontaminated.
- When the truck is loaded, the driver will be instructed to receive his completed paperwork (manifest) from the traffic department.

(3) Container Storage Operations

In the main container storage area, combustible storage area and flammable material storage area, all 5 gallon and 55 gallon containers are stored on 42" x 42" wooden pallets. This minimizes the corrosion effects on the floor or containers that could occur if the container were in physical contact with the floor and/or any spilled materials. The 330-gallon storage totes which come in two designs; circular and cube, are stored directly on the floor. The cube storage totes, as illustrated on Figure 2.2, are stored in a wire mesh cage which elevates the cube container approximately four (4) inches off the floor.

To provide MacDermid personnel with easy access for inspection and handling, the containers in the areas described above are stored in rows separated by a minimum of two (2) feet. Each storage area is also inspected on a daily basis for leaks/spills and on a weekly basis for sealing of containers, marking of containers, etc. (see Section 7.0, Inspection Plan).

Ignitable wastes which are stored only in the flammable material storage area and combustible storage area (one, 55 gallon satellite storage drum), as required by RCRA and NFPA, are stored only one high and maintained 50 feet from the nearest property boundary.

Small volumes of liquids (less than 25 gallons) accumulated in the secondary containment areas will generally be absorbed with speedi-dry and placed in a clean, 55 gallon drum. A sample of this material will be tested for as described in Section 5.0, the Waste Analysis Plan, to determine proper manifesting information.

They will be manifested as described in Section 5.0 using the information gained from testing and from

identifying the leaking drum's contents from its manifest.

Large volume of liquids (more than 25 gallons) will generally be pumped with a portable sump pump to clean 55 gallon drums. These materials will be sampled and analyzed as detailed in Section 5.0, the Waste Analysis Plan. The drum will then be properly labelled and marked and the material handled in the usual fashion for that waste designation.

The metal hydroxide sludge storage area is used only to store dewatered sludge in a 26 cubic yard roll-off. Any spills of free liquids within this area will be discharged to the wastewater treatment system by a floor trench. To prevent releases beyond this area and the wastewater treatment system, secondary containment is provided by means of a concrete floor, building walls and concrete berm in front of the garage door.

(4) Tank Storage Operation

Each operating day, the level of the waste storage tanks will be measured (sight gauges) and recorded on the Inspection Sheets (see Section 7.0) and Operating Logs (see Section 11.0), to minimize

the possibility of overfilling the tanks and to determine if any quantity of material was released suddenly or non-suddenly via leaks or tank failure. In addition to the daily level inspections, each tank will be inspected on a weekly basis for structural defects (see Inspection Plan, Section 7.0).

9.1.3 Required Emergency Equipment

A description, list and location of all emergency equipment available at MacDermid, Inc. is provided in Section 10.0, the Contingency Plan. Provided below is a brief discussion of compliance with each of the types of equipment required.

(1) Internal Communication [40 CFR, Section 264.32(a)]

Internal communications are provided in the storage facilities by virtue of a telephone, paging and alarm systems. Emergency instructions can be transmitted via telephone, paging or alarm system to affected employees throughout the entire MacDermid, Inc. Huntingdon Avenue facility.

(2) Outside Communication [40 CFR, Section 264.32(b)]

The telephones throughout the facility are capable of summoning outside assistance. A list of emergency telephone numbers are provided next to

each phone or in hallways for easy access in the event of an emergency. In addition Emergency Personnel are provided with beepers which can be activated by any telephone.

(3) Emergency Fire and Spill Control Equipment [40 CFR, Section 264.32(c)]

A list, description, and location of all emergency equipment is provided in Section 10, Table 10.2. A summary of such equipment is described below:

Fire Control Equipment

All extinguishers are professionally serviced by Waterbury Fire Extinguisher Co., Waterbury, CT.

- 72 - 20 pound ABC dry chemical
- 42 - 10 pound ABC dry chemical
- 5 - 2" 30' length of hose hooked into sprinkler system and ADT
- 2 - 250 pounds dry chemical on wheels
- 4 - Fire Hose
- 2 - Fire Blankets

Personal Protective Equipment

The following protective equipment is maintained at the facility for use by personnel during an emergency:

- A. 5 - Scott Air Packs Rated 30 minute breathing air*
- B. 4 - Spare tanks for Scott Air Packs*

- C. 9 - Gas Mask Check Type. With canisters for organic vapors, acid gasses and ammonia*
- D. Chemical Suits

* See "Locations" section below.

Locations

- A. 2 - Ink Dept. (Gear Street)
 - 1 - Shipping Warehouse
 - 1 - Liquid Dept. - production
 - 1 - Dry Mix Dept. - Production
- B. Storage Cabinet near Production Offices
- C. Storage Cabinet near Production Offices
- D. Scattered throughout Manufacturing and Transportation

First Aid Equipment

- A. Standard Industrial First Aid Kit;
- B. Acid and Alkaline Burn Kit; and
- C. Emergency Eye Wash and Shower.

9.1.4 Leak Detection Equipment

Federal and State regulations require detection of leaks within storage areas within 24 hours of their occurrence. MacDermid does not operate on Sundays or holidays, therefore, the following section describes devices in place at MacDermid to detect leaks during these times and after hours when not operating.

9.1.4.1 Main Container Storage Area

The collection sump in the main container storage area is to be equipped with a high level alarm. If activated after working hours, an

electronic signal will be transmitted to ADT, the off-site security service company. ADT will then notify MacDermid's Alarm Security Investigator (ASI).

9.1.4.2 Waste Storage Tank

The floor trench located in the waste storage tank area is connected to the wastewater treatment system. Any discharges from this area will discharge to one of two 60,000 gallon batch holding tanks. Under normal operating conditions, one of these tanks will be kept emptied at all times. In the event both tanks are full and additional wastewater is released to these tanks, the tanks' high level alarms will be activated and ADT notified. ADT will then notify MacDermid's Alarm Security Investigator (ASI).

9.1.4.3 Flammable Material Storage Area

The flammable material storage area is designed to store a maximum of sixteen 55 gallon drums. Since the volume of secondary containment provided by this area will contain 184 gallons or approximately 3-1/3 drums, no leak detection equipment has been provided or

proposed for this area. Furthermore, in the event of a catastrophic event (release of more than 184 gallons), all waste will be discharged to the wastewater treatment system via the floor trench located outside this area. As discussed under Section 9.1.4.2, two 60,000 gallon batch holding tanks are used to collect any discharges from the Huntingdon Avenue plant. Both of these tanks are equipped with high level alarms which are connected to the ADT security system.

9.1.4.4 Combustible Storage Area

For the same reason discussed under Section 9.1.4.3, no leak detection equipment has been provided or proposed for the combustible storage area.

9.1.5 Arrangements with Local Authorities [40 CFR, Section 264.37]

State and Federal regulations require arrangements be agreed to by local police and fire departments, hospitals, contractors, and State and local emergency response teams. In fulfillment of the requirements of this part, MacDermid, Inc. has made agreements with the following agencies:

- Waterbury Fire Department
- St. Mary's Hospital

- Waterbury Hospital
- Waterbury police Department

Each of the above agencies has been sent a copy of MacDermid, Inc.'s Contingency Plan. Letters of transmittal to each department are included in Attachment 2 of the Contingency Plan (Section 10).

9.2 General Hazard Prevention [40 CFR, Section 270.14(8)]

State and Federal regulations for General Hazard Prevention require a description of procedures, structures or equipment used at the facility to:

1. Prevent hazards in unloading operations;
2. Prevent runoff from hazardous waste handling areas to other areas;
3. Prevent contamination of water supplies;
4. Mitigate effects of equipment failure and power outages; and
5. Prevent undue exposure of personnel.

The majority of these items are addressed in other sections of this report notably Sections 4.0, 9.1.1 and 10.0. Provided below is a brief description of or specific reference to, compliance by MacDermid, Inc. with the requirements of this section.

9.2.1 Prevention of Hazards in Unloading Operations [40 CFR, Section 270.14(8)(i)]

Procedures to be used to prevent hazards during loading/unloading operations have been discussed in detail in Section 9.1.1. Additional descriptions are also provided in Section 4.0.

9.2.2 Prevention of Runoff [40 CFR, Section 270.14(8)(ii)]

Runoff from hazardous waste handling areas will be prevented from migrating to the environment by virtue of concrete floors, building walls, concrete curbing and/or berms, as described in Section 4.0 and Section 9.1.1

9.2.3 Prevention of Contamination of Water Supplies [40 CFR, Section 270.14(8)(iii)]

As described in Section 12.0 there are no public or private drinking water supplies within 1,000 feet of the MacDermid, Inc. facility.

9.2.4 Mitigate Effects of Equipment Failure or Power Outages [40 CFR, Section 270.14(8)(iv)]

MacDermid, Inc. is a recycling and storage facility only. Since all operations are conducted on a manual basis, there is only minimal equipment that could fail (e.g. portable sump pumps, telephones, and lights).

All of the above equipment is inspected on a periodic basis as described in Section 7.0 and will be maintained in good working order.

It is not expected that failure of any of the above equipment would present a significant hazard to operations at MacDermid, Inc. For example:

- If the portable sump pump fails, a replacement pump is available at all times.
- If the telephone and paging system fails, the alarm systems can be used to alert all key personnel throughout the facility.
- If the electricity power is lost, all personnel would evacuate and activities would cease; a back up lighting system would allow all personnel to evacuate safely; all storage areas would be unaffected, as electricity is not required to operate these areas.

9.2.5 Prevent Undue Exposure of Personnel [40 CFR, Section 270.14(8)(v)]

Personnel protective equipment available on-site is listed in Section 10, Table 10.2.

9.3 Prevention of Ignition or Reaction of Wastes [40 CFR, Sections 270.14(9) and 264.17]

State and Federal regulations require that an owner/operator provide a description of precautions to prevent accidental ignition or reaction of ignitable, reactive or incompatible wastes. In particular:

- (a) The owner or operator must take precautions to prevent accidental ignition or reaction of ignitable or reactive waste. This waste must be separated and protected from sources of ignition or reaction including but not limited to: open flames, smoking, cutting and welding, hot surfaces, frictional heat, sparks (static, electrical, or mechanical), spontaneous ignition (e.g., from heat-producing chemical reactions), and radiant heat. While ignitable or reactive waste is being handled, the owner or operator must confine smoking and open flame to specially designated locations. "NO SMOKING" signs must be

conspicuously placed wherever there is a hazard from ignitable or reactive waste.

(b) Where specifically required, the owner/operator of a facility that treats, stores, or disposes ignitable waste or incompatible wastes and other materials, must take precautions to prevent reactions which:

1. Generate extreme heat or pressure, fire or explosions, or violent reactions;
2. Produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health or the environment;
3. Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions;
4. Damage the structural integrity of the device or facility;
5. Through other like means threaten human health or the environment.

Provided in the following sections are descriptions of the precautions taken by MacDermid, Inc. in the handling of ignitable, reactive and/or incompatible wastes.

9.3.1 Precautions Relating to Flammable Wastes

At MacDermid, Inc. all flammable wastes are stored in the flammable material storage area except for the one, 55 gallon satellite storage drum (grounded) located in the combustible storage area. The flammable material storage area is located in the north section of the Gear Street building (see Figure 2.1) approximately 125 feet from the nearest property boundary.

All storage and handling operations involving flammable hazardous wastes are conducted so as to prevent accidental ignition of said wastes. All containers of flammable wastes are stored in closed containers and grounded.

During storage and handling operations, flammable wastes are separated and protected from all sources of ignition including, but not limited to: open flames, lighting, smoking, cutting, welding, hot surfaces, frictional heat, radiant heat, spontaneous ignition, and sparks from static, electrical, or mechanical sources. "NO SMOKING" signs are conspicuously displayed both inside and outside the flammable material storage area. "NO SMOKING" will also be observed in all loading and unloading operations.

All tools (bung wrenches, etc.) and equipment used during, or in the area of, flammable hazardous waste handling and storage are non-sparking. All electrical equipment and wiring (lights, alarms, switches, etc.) in the flammable material storage area are explosion-proof, as specified in NFPA 70, National Electrical Code.

The flammable material storage area is also equipped with manual fire suppression equipment and a sprinkler system.

9.3.2 Precautions Relating to Reactive/Incompatible Wastes

To prevent the possibility of an explosive reaction, only compatible wastes are stored with in the various storage areas (see Section 5.5).

HAZARDOUS/CT-REGULATED WASTE CONTINGENCY PLAN

MACDERMID, INC.
526 HUNTINGDON AVENUE
WATERBURY, CONNECTICUT

10.0 HAZARDOUS/CT-REGULATED WASTE CONTINGENCY PLAN [40 CFR Sections 264.50-.56 and 270.14]

10.1 Purpose

In accordance with Title 40 of the Code of Federal Regulations 264 Subpart D and the Standards for Commercial Connecticut Regulated Waste Facilities, the following plan will be used in the event of an emergency.

The purpose of this plan is three-fold:

- 1) To act as a guide during actual emergency situations;
- 2) To minimize hazards to human health and the environment from fires, explosions, or any unplanned sudden or non-sudden release of hazardous and industrial wastes stored on-site to the air or soils; and
- 3) To familiarize local emergency response personnel (i.e. police, fire, and rescue departments, hospital and governmental personnel) with the types of material handled and internal emergency response procedures.

The provisions of this plan will be carried out immediately whenever there is a fire, explosion, or release of hazardous waste which could threaten human health or the environment. The provisions of this plan also applies to the CT-regulated wastes storage and recycling operations.

In addition, this plan is intended to describe the actions facility personnel must take to minimize hazards to human health or the environment in the event of fires, explosions, or any unplanned sudden or non-sudden release of hazardous wastes.

A general description of the facility, including the location of hazardous waste storage areas and emergency equipment and communications, are shown on Figure 10.1.

Provided in the following sections of this plan are:

- 10.2 Initial Notifications
- 10.3 Implementation of the Contingency Plan
- 10.4 Emergency Procedures
- 10.5 Control Procedures
- 10.6 Emergency Equipment/Containment Structures
- 10.7 Evacuation Plan
- 10.8 Reporting of Emergency Incidents
- 10.9 Contingency Plan Review/Location
- 10.10 Arrangements with Local Authorities

A. Introduction

MacDermid, Inc. is located on two parcels of property north and south of Huntingdon Avenue in the Fairmont section of Waterbury, Connecticut. The southern parcel is approximately 11 acres in area on which one building houses both manufacturing and laboratory facilities. The northern parcel is approximately 42 acres in size and is mostly undeveloped except for MacDermid's vacant office building located on the eastern portion.

**US EPA New England
RCRA Document Management System
Image Target Sheet**

RDMS Document ID # 100863

Facility Name: MACDERMID INC

Facility ID#: CTD001164599

Phase Classification: R-1B

Purpose of Target Sheet:

☒ **Oversized (in Site File)** ☐ **Oversized (in Map Drawer)**

☐ **Page(s) Missing (Please Specify Below)**

☐ **Privileged** ☐ **Other (Provide
Purpose Below)**

Description of Oversized Material, if applicable:

FIGURE 10.1: EMERGENCY EQUIPMENT LOCATIONS

☒ **Map** ☐ **Photograph** ☐ **Other (Specify Below)**

*** Please Contact the EPA New England RCRA Records Center to View This Document ***

The principle business of MacDermid, Inc. is the blending or compounding of chemical materials used in metal finishing, plating on plastics, micro electronics and printed circuit industries. As an adjunct to the principle business, MacDermid reprocesses used surface finishing chemicals received from their customers and off-site MacDermid facilities for recycling. As a result of these operations, hazardous and CT-regulated wastes are generated, stored temporarily on-site and/or recycled. Ultimately all hazardous and CT-regulated wastes are removed from the site by certified waste haulers and disposed of at permitted hazardous waste disposal facilities.

The remainder of the Plan describes necessary actions and procedures to be employed in the event of an emergency at MacDermid, Inc.

Presented on Figure 10.1 is a site plan of the facility.

B. Handling Emergencies for MacDermid Incorporated

As the quantity and variety of hazardous materials increase, the likelihood of emergencies grow. Also, even relatively minor incidents, from a technical viewpoint, may seem to be major emergencies from the public's stand point. It is imperative that emergencies involving MacDermid materials be handled in a safe and organized manner so as to protect persons, property, and the environment from whatever hazards may be involved.

MacDermid's role in an emergency should be to advise and assist by providing technical information and material resources as necessary and appropriately to enable emergency personnel to reduce the hazard as much as possible.

For the safety of all concerned, it is essential that an incident be properly reported and documented, such that appropriate MacDermid personnel can be contacted as soon as possible. How to report such an emergency, how to contact appropriate MacDermid personnel, and MacDermid's responsibilities at the incident scene, are the subjects discussed in the following section of this guideline.

C. Types of Wastes Received for Recycling

The hazardous and CT-regulated wastes listed below are received from MacDermid customers or off-site MacDermid facilities for reclamation (recycling):

- Copper etchant
- Solder stripper
- Solder conditioner (stored on-site only at this time)
- Electroless Copper (stored on-site only at this time)
- N-Methyl Pyrolidone (NMP)

a. Copper Etchant:

Copper etchant is received either in bulk or in containers, and stored temporarily prior to reclamation.

Recyclable solution received in bulk is stored temporarily in the waste storage tanks, and later reclaimed on-site, or re shipped off-site for reclamation.

Recyclable solution received in containers is stored temporarily in the main container storage area, and later reclaimed on-site or reshipped off-site for reclamation.

b. Solder Stripper/Conditioner Solution/Electroless Copper

Solder stripper is received in containers, and stored temporarily prior to being reclaimed on-site. The Solder conditioner and electroless copper is sent to MacDermid, Inc., Ferndale, MI for on-site reclamation. These materials are stored in the main container storage area, and later transferred for recovery on-site or transferred to MI.

c. N-Methyl Pyrolidone (NMP)

N-Methyl Pyrolidone (NMP) is received in containers, and stored temporarily prior to being reclaimed on-site or reshipped off-site for reclamation. NMP is stored on-site in the combustible storage area.

d. Other Waste Streams

The all remaining wastes generated on-site or received from MacDermid's 245 Freight Street facility are stored on-site in containers prior to being shipped off-site for final treatment/disposal at a permitted hazardous waste facility. These waste streams are primarily by-products generated from the manufacturing and development of surface finishing chemicals.

10.2 Initial Notifications

At the facility, the following personnel must be notified in case of a sudden or non-sudden release of hazardous wastes, fire or explosion. The phone number at the plant to be used by persons outside the facility (e.g. fire, police, spill contractors, etc.) is (203) 575-5700.

<u>NAME</u>	<u>HOME LOCATION</u>	<u>HOME PHONE</u>	<u>PLANT PHONE</u>
John Miele (Emergency Coordinator)	131 Stoddard Rd. Waterbury, CT	756-2702	575-5851
Bill Schweiker (Alternate)	19 Juniper Dr. Wolcott, CT	879-2837	575-5998
Bob Ardziejaskas (Alternate)	58 Delhurst Dr. Waterbury, CT	757-6953	575-5849
Frank Cruice (Alternate)	23 Atwood St. Watertown, CT	274-6576	575-7908

The emergency coordinator and/or his alternates provide 24-hour coverage for the Huntingdon Avenue facility.

Upon approval of the Part B Permit Application, all employees at the Huntingdon Avenue facility will receive copies of the Contingency Plan, and will be briefed on any changes as they arise. Within 24-hours after a spill event, MacDermid emergency personnel will meet to discuss the actions taken and recommend remedial action changes, if necessary.

In case of an imminent or actual emergency at the plant, the Emergency Coordinator or his alternate shall be contacted first. The Emergency Coordinator shall carry out the emergency plan agreed

to by local police, fire department, hospitals, contractors and state and local emergency response teams.

The flow diagrams in Sections 10.5.2, through 10.5.4 contain all the phone numbers of organizations or facilities that the Emergency Coordinator should contact, should the threat of imminent danger arise.

10.3 Implementation of the Contingency Plan [40 CFR Section 264.51]

The decision to implement the Contingency Plan depends upon whether or not an imminent or actual incident could threaten human health or the environment. This section outlines decision-making criteria which the Emergency Coordinator should use to define situations in which the Contingency Plan will be implemented.

(1) Fire and/or Explosion

- a. A fire causes the release of toxic fumes.
- b. The fire spreads and could possibly ignite materials at other locations on-site or could cause heat-induced explosions.
- c. The fire could possibly spread to off-site areas.
- d. Use of water or water and chemical fire suppressant could result in contaminated runoff.
- e. An imminent danger exists that an explosion could occur, causing a safety hazard because of flying fragments or shock waves.
- f. An imminent danger exists that an explosion could ignite other hazardous waste at the facility.
- g. An imminent danger exists that an explosion could result in release of toxic materials.
- h. An explosion has occurred.

(2) Spills or Material Release

- a. The spill could result in release of flammable liquids or vapors, thus causing a fire or gas explosion hazard.
- b. The spill could cause the release of toxic liquids or fumes.
- c. The spill can be contained on-site, but the potential exists for ground water contamination.
- d. The spill cannot be contained on-site, resulting in off-site soil contamination and/ or ground water or surface water pollution.

(3) Floods

- a. The potential exists for surface water contamination.

10.3.1 Authority of Emergency Coordinator [40 CFR Section 264.55]

The Emergency Coordinator and his alternates shall be thoroughly familiar with:

- a) all aspects of this contingency plan;
- b) all operations and activities at MacDermid, Inc.;
- c) the location and characteristics of all waste handled at MacDermid, Inc.;
- d) all records at MacDermid, Inc.; and
- e) the facility layout.

The Emergency Coordinator and his alternates shall have access to all parts of MacDermid, Inc. The Emergency Coordinator and his alternates shall have the authority to spend or use whatever is necessary to carry out this Contingency Plan. A file of MSDSs for materials handled on-site (as required by 29 CFR 1910.1200 and the SARA Title III requirements) are also available for use by the emergency coordinator.

10.4 Emergency Procedures [40 CFR Section 264.56]

Emergency procedures are the responsibility of the Emergency Coordinator or his alternate. Such procedures are specifically outlined below:

- I. If necessary, the Emergency Coordinator should activate internal facility alarms and/or communication systems to notify all facility personnel.
- II. The foreman of each department will, if necessary, evacuate all personnel within each department using pre-determined routes described in this Plan.
- III. If their help is needed, the Emergency Coordinator should notify the appropriate state and local agencies included in the emergency procedural flow diagrams.
- IV. The Emergency Coordinator must identify the character, exact source, amount, and extent of any released materials and assess possible hazards to human health or the environment.
- V. If the Emergency Coordinator determines there is a threat to human health or the environment outside the facility, he must report his findings to:
 - Local authorities, if evacuation of local areas is advised (see procedural flow diagrams);
 - Fire/Police Department: 911
Health Department (Waterbury) 574-6780
 - Connecticut Department of Environmental Protection
Emergency Response: (203) 566-3338, and 566-4633;
State Police: Bethany (203) 756-8069; and
 - National Response Center telephone number: 1-800-424-8802.

The following information must be provided to the DEP and the National Response Center when contacted:

- Name and telephone number of reporter;
- Name and address of facility;
- Time and type of incident (e.g. release, fire);
- Name and quantity of material(s) involved, to the extent known;
- The possible hazards to human health or the environment outside the facility; and
- The extent of injuries, if any.

10.5 Control Procedures

10.5.1 Emergency Procedures

The MacDermid, Inc. hazardous waste training program includes personnel training for emergency situations. Potential accidents fall under the following classifications:

- (1) Fire and/or Explosions;
- (2) Spill and/or Release; and
- (3) Potential Flood.

This section of the report outlines particular emergency control procedures. Immediately following the text of Sections 10.5.2, 10.5.3, and 10.5.4 are procedural flow diagrams for each of the emergencies listed above. The text preceding each chart provides more detailed information for handling each type of emergency. The types of hazardous wastes stored at MacDermid, Inc. are described along with their associated hazards in Table 10.1.

TABLE 10.1

WASTE IN STORAGE

Substance in Storage

Contingency Plan

Copper Etchant

Life Hazard: Ingestion is corrosive to Solution the digestive tract. Irritating and corrosive to body tissues. Excessive inhalation of vapors is irritating to the mucous membranes of the respiratory tract and can result in headache, coughing, lung congestion and difficulty in breathing. Liquid contact with eyes can result in eye damage.

Personal Protection: Use splash-proof, chemical resistant safety goggles, and where needed, a faceshield. Use rubber suit, boots, gloves, apron, or other protective clothing to prevent contact.

Storage: Store in leak-proof containers or tanks. Protect against physical damage.

Fire Fighting: Use media appropriate to surrounding fire conditions. Use cold water spray to control vapors and cool fire-exposed containers. When heated, material will emit vapors which necessitates respiratory and eye protection for fire fighters. Use protective clothing.

Solder Stripper and Conditioner Solution

Life Hazard: Irritants of the eyes, mucous membranes and skin. Vapors/mists Solution can irritate upper respiratory tract and result in coughing, burning of the throat, choking sensation and if inhaled deeply, pulmonary edema. Ingestion can cause burns and possible laryngeal spasm.

Personal Protection: Use rubber gloves or gauntlets, apron, boots, long sleeve shirt, body suit, etc. Use chemical resistant safety goggles and/or face shield for eye protection against splashing of acid.

Storage: Store in leak-proof containers or tanks. Protect against physical damage. Do not store acids with solvents.

Fire Fighting: Select extinguishing media suitable for surrounding fire. Use a water spray to cool exposed containers to prevent rupture. Nonflammable, but acid can react with many metals to produce hydrogen gas. Neutralize acid with limestone, slaked lime or soda ash, to minimize formation of hydrogen gas.

TABLE 10.1 (continued)

WASTE IN STORAGE

Substance in Storage

Contingency Data

Flammable Solvents (chlorinated and non-chlorinated)

Life Hazard: Incoordination and impaired judgement may occur at vapor exposures from 300-1,000 ppm. Dizziness, loss of consciousness and even death can occur at increasing levels of exposure. When involved in fire, emits highly toxic and irritating fumes. Eye and respiratory irritant. Extreme inhalation of vapors may cause death by paralysis of the respiratory center.

Personal Protection: Wear full protective clothing including safety goggles.

Storage: Store in a cool, dry, well ventilated location, away from any area where the fire hazard may be acute.

Fire Fighting: Use dry chemical foams, or carbon dioxide since water may be ineffective. But water should be used to keep fire exposed containers cool. If leak or spill has not ignited use water spray to disperse the vapors and to protect personnel attempting to stop a leak. Water spray may be used to flush spill away from exposures.

Metal Hydroxide/Sulfide Sludge

Life Hazard: Ingestion can cause intestinal disorders and even death. Metal constituents can cause dermatitis with skin contact. May emit toxic fumes during fire.

Personal Protection: Wear full protective clothing including goggles, apron and gloves.

Storage: Store in cool, dry, well-ventilated area, away from acute fire hazards. Incompatible with alkalis.

Fire Fighting: Use water spray to keep fire-exposed containers cool. Essentially non-flammable; if ignited, blanket fire with sand, G-1 powder or powdered talc.

Electroless Copper and Conditioner

Life Hazard: Toxic by ingestion. Ingestion causes burning in the stomach and vomiting. Large doses can be fatal. Can be a skin irritant.

Personal Protection: Wear full protective clothing including safety goggles and gloves.

Storage: Store in leak proof containers or tanks. Protect against physical damage.

TABLE 10.1 (continued)

WASTE IN STORAGE

Substance in Storage

Contingency Data

Electroless Copper and
Conditioner (cont.)

Fire Fighting: Use media appropriate to surrounding fire conditions. Use a water spray to cool exposed containers. Essentially non-flammable.

NMP

Life Hazard: Low order of toxicity; minor irritant to skin. Ingestion may cause gastric disturbance.

Personal Protection: Wear goggles, gloves and apron.

Storage: Store in leak proof containers away from acute fire hazards.

Fire Fighting: Use alcohol foam, CO² or dry chemical. Use a water spray to cool exposed containers. Self contained breathing equipment should be used in a fire situation in enclosed areas.

Waste Acid Plating Solutions

Life Hazard: Ingestion is corrosive to digestive tract. Irritating and corrosive to body tissues. Excessive inhalation of vapors is irritating to the mucous membranes of the respiratory tract and can result in headache, coughing, lung congestion and difficulty in breathing. Liquid contact with eyes can result in eye damage.

Personal Protection: Use splash-proof, chemical resistant safety goggles, and where needed, a face shield. Use rubber suit, boots, gloves, apron, or other protective clothing to prevent contact.

Storage: Store in leak-proof containers or tanks. Protect against physical damage.

Fire Fighting: Use media appropriate to surrounding fire conditions. Use cold water spray to control vapors and cool fire-exposed containers. When heated, material will emit vapors which necessitates respiratory and eye protection for fire fighters. Use protective clothing.

Waste Plating Solutions
(non-acidic)

Life Hazard: Ingestion can cause intestinal disorders and even death. Metal constituents can cause dermatitis with skin contact. May emit toxic fumes during fire.

Personal Protection: Wear full protective clothing including goggles, apron and gloves.

TABLE 10.1 (continued)

WASTE IN STORAGE

Substance in Storage

Waste Plating Solutions
(non-acidic) (cont.)

Contingency Data

Storage: Store in cool, dry, well-ventilated area, away from acute fire hazards. Incompatible with alkalies.

Fire Fighting: Use water spray to keep fire-exposed containers cool. Essentially non-flammable; if ignited, blanket fire with sand, G-1 powder or powdered talc.

10.5.2 Fire and/or Explosion

The container storage and handling areas and the tank storage area can all be easily accessed by fire fighting and other emergency vehicles and equipment.

If a fire breaks out, concentration will be placed on contacting local fire fighting officials and the orderly evacuation of the affected area(s).

The following actions will be taken in the areas affected by the fire or explosion:

- (1) Fire doors in buildings will be closed.
- (2) Hazardous work in all areas will be shut down immediately.
- (3) All material transfer operations will be shut down, as necessary and practical.
- (4) The area will be cleared of all personnel not actively involved in fighting the fire. These persons are to report to the designated rally points for accountability.
- (5) All injured persons will be removed and medical treatment will be administered by qualified personnel.

The facility receptionist will be called and advised not to accept any outside calls unless absolutely necessary so that the phone lines remain free to handle only emergency calls.

Area or plant evacuation will be necessary in case of major fire or explosion. All personnel have been trained in evacuation procedures and means of exit from their respective work areas.

Until evacuation is signaled, personnel who are not in an affected area will stay in their respective work areas. Contract personnel and visitors will be cleared from the area and instructed to report to the Production Manager's Office.

The Emergency Coordinator will be responsible for determining if personnel who are not in an affected area can stay in their respective work area. Supervisory personnel of unaffected areas will stay with their personnel and be ready to evacuate and account for the persons under their supervision.

An "all clear" signal will be given when the fire has been extinguished and the safety of personnel is no longer endangered. The Emergency Coordinator will determine when the emergency has passed and the "all clear" signal can be given. All emergency equipment used in the emergency must be cleaned and fit for use prior to resumption of plant operation in the affected areas. The following flow chart will be used in the event of a fire and/or explosion.

EMERGENCY PROCEDURE

FIRE AND/OR EXPLOSION

CONTACT EMERGENCY COORDINATOR AND/OR ALTERNATES.

- | | | | |
|-----------------------|------------------|-----------------------|----------------------|
| 1) EMERGENCY COORD. - | John Miele | PLANT PHONE: 575-5851 | HOME PHONE: 756-2702 |
| 2) 1ST ALTERNATE - | Bill Schweiker | PLANT PHONE: 575-5998 | HOME PHONE: 879-2837 |
| 3) 2ND ALTERNATE - | Bob Ardzijauskas | PLANT PHONE: 575-5849 | HOME PHONE: 757-6953 |
| 4) 3RD ALTERNATE - | Frank Cruice | PLANT PHONE: 575-7908 | HOME PHONE: 274-6576 |

BEEPER NUMBERS:

- 1) 1-800-512-0007
- 2) 1-800-512-0303
- 3) 1-800-512-3125
- 4) 1-800-512-4874

**PERSONNEL
INJURED?**

YES

NO

EMERGENCY COORDINATOR OR ALT. CONTACTS THE FOLLOWING:

HOSPITAL: Waterbury (573-6000)
HOSPITAL: St. Mary's (574-6000)
AMBULANCE: Champion (754-3179)
POISON CONTROL CENTER: (574-6011)

**IF NECESSARY, THE EMERGENCY COORDINATOR
SHOULD ACTIVATE INTERNAL FACILITY ALARMS
AND/OR COMMUNICATION SYSTEMS TO NOTIFY
ALL PERSONNEL OF EVACUATION.**

- 1) FIRE DOORS IN BUILDING WILL BE CLOSED.
- 2) HAZARDOUS WORK IN ALL AREAS WILL BE SHUT DOWN IMMEDIATELY.
- 3) ALL FEED LINES AND ADDITIONAL EQUIPMENT WILL BE SHUT DOWN, AS NECESSARY AND PRACTICAL.
- 4) THE AREA WILL BE CLEARED OF ALL PERSONNEL NOT ACTIVELY INVOLVED IN FIGHTING THE FIRE. THESE PERSONS ARE TO REPORT TO THE DESIGNATED RALLY POINTS FOR ACCOUNTABILITY.

(CONTINUED ON NEXT PAGE)

IDENTIFY CHEMICALS INVOLVED, CHECK INITIAL EMERGENCY
PROCEDURE FOR SPECIFIC CHEMICAL IN TABLE 10.1

THE EMERGENCY COORDINATOR MUST IDENTIFY THE
CHARACTER, EXACT SOURCE, AMOUNT, AND EXTENT
OF ANY RELEASED MATERIAL AND ASSESS POSSIBLE
HAZARDS TO HUMAN HEALTH OR THE ENVIRONMENT

CAN FIRE OR EXPLOSION BE HANDLED
WITH ON-SITE EQUIPMENT?

YES

NO

FACILITY EMERGENCY CREWS
EXTINGUISH FIRE/SECURE AREA

EMERGENCY COORDINATOR OR ALT. CONTACTS:
FIRE DEPARTMENT: (203) 753-3131 (911)
CONNECTICUT DEP: 566-3338 OR 566-4633
POLICE DEPARTMENT: (203) 574-6911 (911)
STATE POLICE: (203) 756-8069 Bethany
WATERBURY HEALTH DEPT: 574-6780

CAN SPILLS RELEASES AND/OR
WASH WATERS BE CONTAINED?

YES

NO

CLEAN-UP OPERATION INITIATED

FOLLOW SPILL PROCEDURES

INCIDENT REPORT
SUBMITTED

EVENT CONCLUDED

10.5.3 Spills

In the event of a major emergency involving a chemical spill, the following general procedures will be used for rapid and safe response and control of the situation.

A. Response

Each of the group leaders has been informed of the following procedures and everyone should be familiar with them.

1. In the event of a spill of any type or quantity, the group leader is to be informed immediately, if possible.
2. The group leader will dial 7998 for the switchboard operator and tell her to page "Code Red-Huntingdon" or "Code Red-Freight Street".
3. This page will be given first priority; nothing will precede it. The group leaders, every one of them, will report to the Production Manager's office whether or not he is there.
4. People who will respond are John Miele, Bill Schweiker, Bob Ardzijauskas, Bob Newman, Dave Howe, and John Alperin. While everyone may not be needed, we will at least have established a command post and a reserve of knowledge to respond to the spill and if notification of appropriate outside agencies is required.
5. The person responsible for the spill has several objectives:

First - Contain the spill as best as possible and determine, if possible, product involved.

Second - Block the area with an empty container, fork, lift, any person in the area, etc. to prevent trucks or any vehicles from tracking the material. If spill occurs near a storm drain, emergency personnel will cover

the drain with plastic sheets and secure the sheets with speedy dry or build a berm around the drain with speedy dry.

Third - Evaluate the spill situation for the possibility of incompatibility problems.

Four - Make the notification to the group leader and accompany the group leader to the meeting point.

6. Regardless of who or what or any questions, we are all responsible for clean up if needed. This will be decided by whomever assumes control at the command post.

IN ACCORDANCE WITH STATE REGULATIONS, ALL SPILLS OR MATERIAL RELEASES MUST BE REPORTED IMMEDIATELY TO THE CONNECTICUT DEP SPILL EMERGENCY RESPONSE LINE (203) 566-3338. THIS REPORTING WILL BE DONE BY THE SAFETY/REGULATORY COMPLIANCE DEPARTMENT.

B. Guidelines

For all large spills or serious leaks, the following guidelines will be followed as closely as possible.

1. If a leak develops or a spill emanates from a waste storage area, the person discovering the discharge will leave the immediate area and contact the Emergency Coordinator. The Emergency Coordinator will obtain the following information:
 - a. Person(s) injured and seriousness of injury.
 - b. Location of the spill or leak, material involved, and source.
 - c. The approximate amount spilled, an estimate of the liquid and/or gas discharge rate, and the direction the liquid flow or gaseous cloud is moving.
 - d. Whether or not a fire is involved.

- e. Possible incompatible wastes or virgin materials in the spill area.

2. Next, the Emergency Coordinator will:

- a. Initiate evacuation of the hazard area. For small spills or leaks, isolate at least 50 ft. in all directions. For large spills, initially isolate at least 100 ft. in all directions and keep all personnel upwind of spill.
- b. Call the fire department or ambulance for any injured persons. It may be helpful to instruct the caller in initial first aid procedures. Then call the hospital.
- c. Call the fire department if a fire is involved that cannot be extinguished by plant personnel. Fight a small fire with dry chemicals, carbon dioxide, or foam, and large fires with water spray, fog, or foam. Keep heat-exposed containers cooled with water spray and remove them from the fire if possible. IF A HISSING SOUND COMES FROM A VENTING DEVICE OR THE DRUM BEGINS TO DISCOLOR, WITHDRAW FROM THE AREA IMMEDIATELY.
- d. Dispatch emergency personnel to the site to take the appropriate action.
- e. Contact the proper authorities if the spill or release is large. Contact local authorities first so that, if necessary, downstream water users and/or persons downwind of the vapor can be notified and, if necessary, evacuated. If a large spill occurs, the initial evacuation area downwind should be 0.2 mile long (1000 feet), by 0.1 mile wide (500 feet). If a tank containing waste becomes involved in a fire, isolate an area one-half mile in all directions.

3. Spill Clean-up

Chemical spills will be cleaned up as quickly as possible after the incident. The Emergency

Response Coordinator will direct all clean-up operations. All clean-ups will be conducted in accordance with all federal, state and local regulations. All clean-up personnel will be required to use the proper protective clothing and equipment during clean-up operations.

- a. Make sure all unnecessary persons are removed from the hazard area.
- b. Put on protective clothing and equipment.
- c. If flammable waste is involved, remove all ignition sources, and use spark and explosion proof equipment and clothing in containment and clean-up.
- d. If possible, try to stop the leak. Special materials will be kept on-hand for temporary repairs.
- e. Remove all surrounding materials that could be especially reactive with the materials in the waste. Determine the major components in the waste at the time of the spill.
- f. Use absorbent pads, booms, earth, sandbags, sand, and other inert materials to contain, divert and clean up a spill if it has not been contained by a dike or sump. Most spills contained within a dike or sump can be pumped back into the appropriate storage tank or drum. All clean up residues will be stored in a 17E/17H open head drum and transferred to the appropriate waste storage area, if characteristic of waste is known. Unknown waste material will be stored in the container storage area and isolated from all containers by surrounding the drum(s) with temporary dike of booms, sandbags, etc.
- g. Procedure for Organic Solvent Spills (includes halogenated solvents)
 - (1) Soak up small spills with Speedi-Dri or Vermiculite.

- (2) Wear protective equipment including, but not limited to rubber gloves, and boots, protective suits and organic vapor respirators.
- (3) Do not enter confined areas without **SELF-CONTAINED BREATHING APPARATUS.**
- (4) Spent or used absorbent will be shoveled into approved 17E/17H open-head drums and stored in the appropriate waste storage area, depending on the type of spill, for subsequent disposal per state and federal regulations.

h. Procedure for Acid Spills

- (1) All acid spills will be neutralized with bagged lime or soda ash or other appropriate material.
- (2) Same procedures as "g" above will apply, regarding protective equipment entering confined areas and spent absorbents.

i. Decontamination Procedures

Spills which occur in the main plant building will be decontaminated using an absorbent material. The absorbent material will be swept back and forth over the spilled area to absorb the waste material and then shoveled into 55 gallon drums. Since all areas within the plant building are provided with concrete floors, which are generally regarded as an impervious material, no testing will be performed to determine fitness of the spill area. Spills outside the facility will have to be reviewed on a case-by-case basis to determine the extent and degree of decontamination and certification sampling. Approval will be obtained from the Department of Environmental Protection on all clean up activities outside the facility building.

4. In the event that a spill results in soil contamination, the Emergency Coordinator will contact:

HRP Associates, Inc.
167 New Britain Avenue
Plainville, Connecticut 06062
(203) 793-6899

HRP Associates will dispatch specially trained geologists and environmental engineers to coordinate clean-up to prevent contamination from reaching ground water. The soil will be removed by a licensed hazardous waste transporter to a permitted disposal site. Soil samples will be analyzed and soil removed until all contamination is removed. In conjunction with EPA and DEP, MacDermid, Inc. will determine if ground water sampling/monitoring is required. If it is, HRP Associates will submit a sampling/monitoring plan for EPA approval. Further actions will be coordinated with EPA.

5. The following flow chart will be used in the event of a spill and/or release of hazardous material.

10.5.3.1 In Case of Serious Injury

1. Alert other persons in the area by voice.
2. Go to the nearest phone - dial 7998 to reach the MacDermid operator.
3. Tell the operator that you are reporting a serious injury and give the following information:
 - a. Your name.
 - b. As much information as you have on the nature of the injury.
 - c. The exact location of the injured person.

- d. An exact location of where our employee will meet the ambulance.
- e. An indication of whether any first aiders are on the scene.

Do not hang up unless told to do so. If for any reason the operator does not pick up, dial 9-911 and give the same information to the city dispatcher.

At the same time this emergency call is being made:

- 4. At least one person must stay with the injured employee. If the injury is from chemical exposure to the skin or eyes, assist the injured person to an eyewash/shower and flush the affected area with water for at least 15 minutes. If the injured person is in an area where he/ she is in danger of further injury, try to remove the hazard. If this is not possible, move the injured person. If possible, the injured person should be moved only by a trained first aider.
- 5. At least one person should locate trained first aider(s) to further assist and monitor the injured person.
- 6. At least one person must go to the street at the entrance that gives the most direct access to the injured person and direct the ambulance crew to the injured person.
- 7. Notify the top manager on-site of the injury.
- 8. If the injury was due to a fire or chemical spill, follow the procedures for those emergencies also.

10.5.3.2 Follow Up

Within 24 hours after a spill event, MacDermid emergency response personnel will meet to discuss what happened and how to improve procedure, if necessary. Any changes required will be added to the Contingency Plan. All outside authorities (i.e. police, fire, etc.) will be notified of the modifications.

EMERGENCY PROCEDURE

SPILL AND/OR RELEASE OF HAZARDOUS MATERIAL

CONTACT EMERGENCY COORDINATOR AND/OR ALTERNATES.

- | | | |
|---------------------------------------|-----------------------|----------------------|
| 1) EMERGENCY COORD. - John Miele | PLANT PHONE: 575-5851 | HOME PHONE: 756-2702 |
| 2) 1ST ALTERNATIVE - Bill Schwieker | PLANT PHONE: 575-5998 | HOME PHONE: 879-2837 |
| 3) 2ND ALTERNATIVE - Bob Ardziejaskas | PLANT PHONE: 575-5849 | HOME PHONE: 757-6953 |
| 4) 3RD ALTERNATIVE - Frank Cruice | PLANT PHONE: 575-7908 | HOME PHONE: 274-6576 |

BEEPER NUMBERS:

- 1) 1-800-512-0007
- 2) 1-800-512-0303
- 3) 1-800-512-3125
- 4) 1-800-512-4874

PERSONNEL
INJURED?

YES

NO

EMERGENCY COORDINATOR OR ALT. CONTACTS THE FOLLOWING:

HOSPITAL:	WATERBURY	(573-6000)
HOSPITAL:	ST MARY'S	(574-6000)
AMBULANCE:	CHAMPION	(754-3179)
POISON CONTROL CENTER:		(574-6011)

IDENTIFY CHARACTER OF SPILLED CHEMICAL, CHECK INITIAL
EMERGENCY PROCEDURE FOR PARTICULAR CHEMICAL IN
TABLE 10.1

IS SPILL SMALL ENOUGH
TO BE HANDLED ON-SITE?

(CONTINUED ON NEXT PAGE)

YES

NO

CONTAIN SPILL,
CLEAN-UP SPILLED
MATERIAL, NOTIFY
CT DEP OF ACTIONS

EMERGENCY COORDINATOR OR ALTERNATE CONTACTS:
FIRE DEPARTMENT: (203) 753-3131 (911)
CONNECTICUT DEP: (203) 566-3338 OR 566-4633
POLICE DEPARTMENT: (203) 574-6911 (911)
STATE POLICE: (203) 756-8069 Bethany
WATERBURY HEALTH DEPT.: (203) 574-6780

HAS SPILL CON-
TAMINATED SUR-
ROUNDING SOIL

YES

NO

EMERGENCY COORDINATOR OR ALTERNATE CONTACTS THE
FOLLOWING:

HRP ASSOCIATES, INC.
167 NEW BRITAIN AVENUE
PLAINVILLE, CT 06062
(203) 827-0004

HAS SPILL REACHED
OR THREATENED
NAVIGABLE WATERS?

(CONTINUED ON NEXT PAGE)

YES

NO

EMERGENCY COORDINATOR OR ALTERNATE CONTACTS THE FOLLOWING:

U.S. EPA REGION I

RESPONSE CENTER

(24-hour emergency number)

(617) 472-3815

NATIONAL RESPONSE CENTER

(800) 424-8802

SPILL CONTAMINATED
MATERIAL CLEANED-
UP AND PROPERLY
DISPOSED.

SPILL INCIDENT
REPORT SUBMITTED

EVENT CONCLUDED

10.5.4 Floods

Due to the geographic location of the MacDermid Corporation facility the potential for flooding exists only if greater than a 100 year flood occurs. If such a flood occurs, the following steps should be taken:

1. Check with the National Weather Service or the Army Corps of Engineers for a projected flood crest.
2. If the crest will result in less than one foot of water in the drum area, the area will be diked with sandbags up to a level one foot over the projected level.
3. If the crest will result in more than one foot of water in the drum area, the waste will be removed to a waste disposal facility.
4. The following flow chart will be used in the event of a spill and/or release of hazardous materials.

10.6 Emergency Equipment/Containment Structures [40 CFR Section 264.52(e)]

Location of emergency equipment is shown on Figure 10.1 and briefly described on Table 10.2. All existing equipment should be periodically checked and maintained.

The hazardous waste materials stored on-site and associated fire fighting equipment and techniques, personnel safety equipment needs, and potential health hazards are described in Table 10.1.

Spills and leaks from the container storage and handling areas, tank storage areas, loading/unloading areas, containment pit, and treatment area will be contained by virtue of specially designed containment systems. All wastes managed in each storage area at

POTENTIAL FOR FLOOD

CONTACT EMERGENCY COORDINATOR AND/OR ALTERNATES.

1) EMERGENCY COORD. - John Miele	PLANT PHONE: 575-5851	HOME PHONE: 756-2702
2) 1ST ALTERNATE - Bill Schweiker	PLANT PHONE: 575-5998	HOME PHONE: 879-2837
3) 2ND ALTERNATE - Bob Ardziejaskas	PLANT PHONE: 783-2236	HOME PHONE: 757-6953
4) 3RD ALTERNATE - Frank Cruice	PLANT PHONE: 575-7908	HOME PHONE: 274-6576

BEEPER NUMBERS:

- 1) 1-800-512-0007
- 2) 1-800-512-0303
- 3) 1-800-512-3125
- 4) 1-800-512-4874

CHECK WITH THE NATIONAL WEATHER SERVICE FOR A PROJECTED FLOOD CREST.

NAT'L WEATHER SERVICE (RIVER FORECAST) (203) 240-3514

IF THE CREST WILL RESULT IN LESS THAN ONE FOOT OF WATER IN THE WASTE STORAGE AREA(S), THE AREA WILL BE DIKED WITH SANDBAGS UP TO A LEVEL OF ONE FOOT OVER THE PROJECTED LEVEL.

IF THE CREST WILL RESULT IN MORE THAN ONE FOOT OF WATER IN THE WASTE STORAGE AREA(S), THE WASTE WILL BE REMOVED TO A SECURE LOCATION.

IF THE WASTE CANNOT BE CONTAINED,
SEE THE SPILL FLOW CHART

TABLE 10.2
EMERGENCY EQUIPMENT

<u>Item (Amount on Hand)</u>	<u>Description/Capabilities</u>	<u>Location</u>
Absorbent Material (50-40 lb bags)	Clay-like material used to absorb and contain spill of liquid material.	See Figure 10.1
Fire Extinguishers (114)	Wall-mounted portable fire fighting apparatus. The following types of fire extinguishers are used: ABC Dry Chemical - for all types of fires.	See Figure 10.1
Telephone System/Paging System/Beepers (9 in hazardous waste storage areas)	Capable of internal and external communication.	See Figure 10.1
Rubber Gloves (30 pairs in spill boxes)	Rubber gloves for protection against harmful materials	Throughout Facility, including spill boxes
Goggles and Protective Glasses	Plastic eye covering used for protection from splashes and flying objects	Throughout Facility, including spill boxes
Shovels (6)	Tool having a broad blade or scoop attached to a long handle, used for spill clean up	See Figure 10.1 (in spill boxes)
Scott Air Pack (4)	NIOSH approved; self-contained breathing apparatus providing 30 minutes of portable oxygen for working in toxic environments	See Figure 10.1 (in spill boxes)
Emergency Shower (31) Eye Wash (33)	Provide flooding sprays of potable water from a height of approximately 7' to flush chemicals splashed onto body	See Figure 10.1
Respirators (4) Cartridges (12)	Disposable cartridges of fiber and charcoal filters to remove particulates and certain toxics from air before inhalation.	See Figure 10.1 (in spill boxes)

TABLE 10.2 (continued)
EMERGENCY EQUIPMENT

<u>Item</u>	<u>Description/Capabilities</u>	<u>Location</u>
First Aid Kit (5)	Wall mounted cabinet containing bandages, aspirins, other first aid equipment used for assisting injured workers	See Figure 10.1
Chemical Suits (4)	Protective clothing designed for full body protection against splashes of hazardous liquids	See Figure 10.1 (in spill boxes)
Fire Alarm System	Electronic, wall-mounted fire alarm box for signaling local alarm only.	See Figure 10.1
Emergency Sprinkler System	Heat activated system on ceilings throughout facility designed to quench facility fire	See Figures 10.2, 10.3, 10.4, 10.5 & 10.6
Walkie-Talkies (1)	Hand held communications devices which are battery operated	See Figure 10.1
High Level Alarms (3)	Float switches in waste storage tanks which activate an audible alarm when activated	Waste Storage Tanks
Water and Air Pumps (3)	Portable pumps which are used to remove accumulated liquid material.	See Figure 10.1

MacDermid, Inc. have been determined to be compatible, therefore, segregation of wastes and clean-up of a spill/leak/fire is not a concern.

10.6.1 Emergency Equipment Cleaning

When any of the emergency equipment shown on Table 10.2 is used in the clean-up/ mitigation of a hazardous waste release, this equipment must be cleaned and replenished (if necessary) as soon as possible. Cleaning of equipment will be in accordance with manufacturers' instructions under the direction of the Plant Manager.

All material used in the cleaning of equipment contaminated with hazardous waste and all single use or unsalvageable emergency equipment will be placed in an appropriate container, manifested and transported to a permitted hazardous waste disposal facility.

The Emergency Coordinator will ensure that after use in the implementation of this Contingency Plan that all emergency equipment and systems described in this plan are cleaned or refurbished and fit for use before resumption of facility operation.

**US EPA New England
RCRA Document Management System
Image Target Sheet**

RDMS Document ID # 100863

Facility Name: MACDERMID INC

Facility ID#: CTD001164599

Phase Classification: R-1B

Purpose of Target Sheet:

☒ **Oversized (in Site File)** ☐ **Oversized (in Map Drawer)**

☐ **Page(s) Missing (Please Specify Below)**

☐ **Privileged** ☐ **Other (Provide Purpose Below)**

Description of Oversized Material, if applicable:

FIGURE 10.2: MAIN CONTAINER STORAGE

☒ **Map** ☐ **Photograph** ☐ **Other (Specify Below)**

*** Please Contact the EPA New England RCRA Records Center to View This Document ***

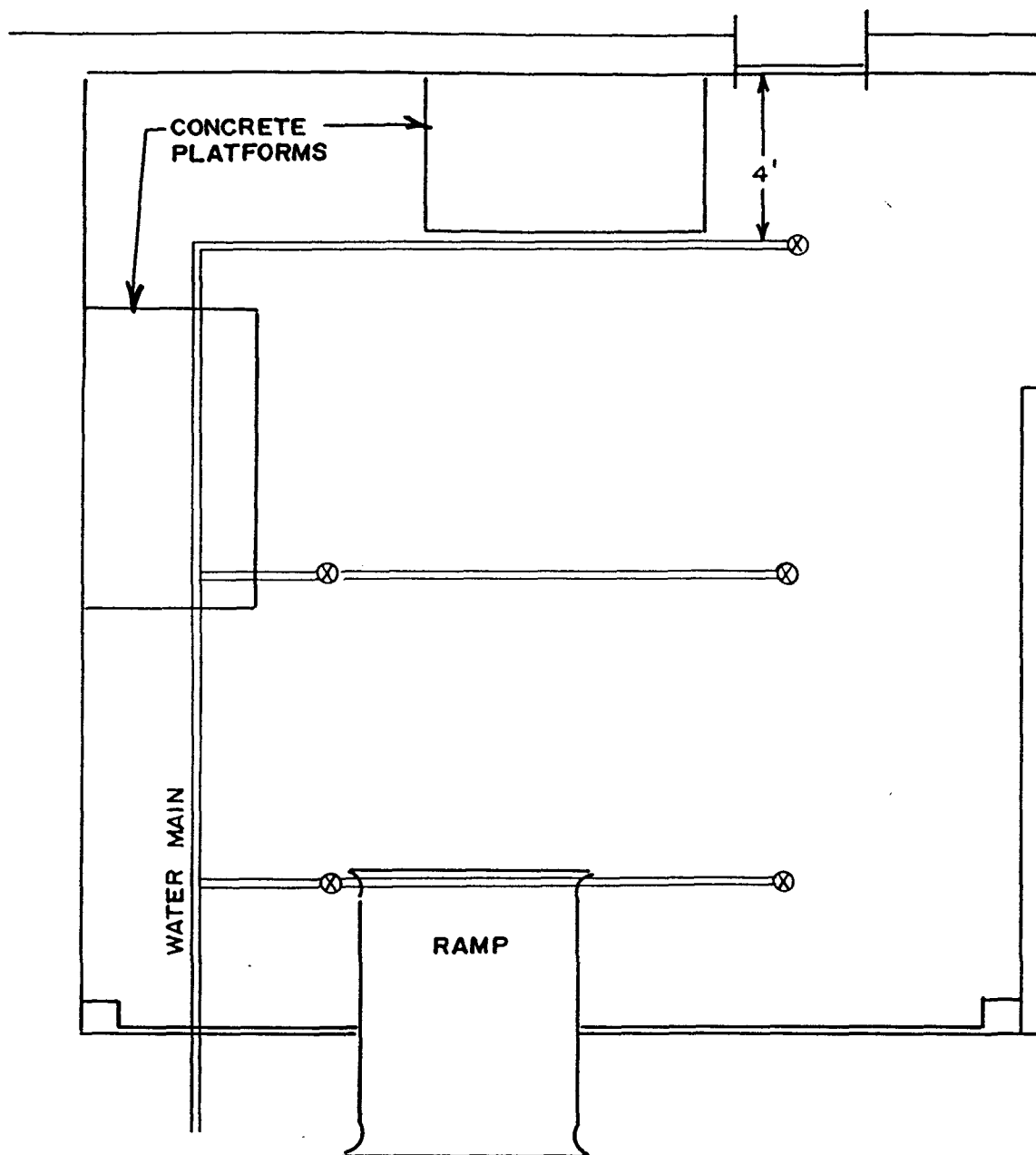


FIGURE 10.3
 COMBUSTIBLE STORAGE AREA
 SPRINKLER SYSTEM LAYOUT
 MACDERMID, INC.
 526 HUNTINGDON AVE.
 WATERBURY, CT.
 MAC 0001.RC

**US EPA New England
RCRA Document Management System
Image Target Sheet**

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☐ **Privileged** ☐ **Other (Provide Purpose Below)**

Description of Oversized Material, if applicable:

**FIGURE 10.4: FLAMMABLE STORAGE AREA AND
SURROUNDING ROOM SPRINKLER SYSTEM LAYOUT**

☒ **Map** ☐ **Photograph** ☐ **Other (Specify Below)**

*** Please Contact the EPA New England RCRA Records Center to View This Document ***

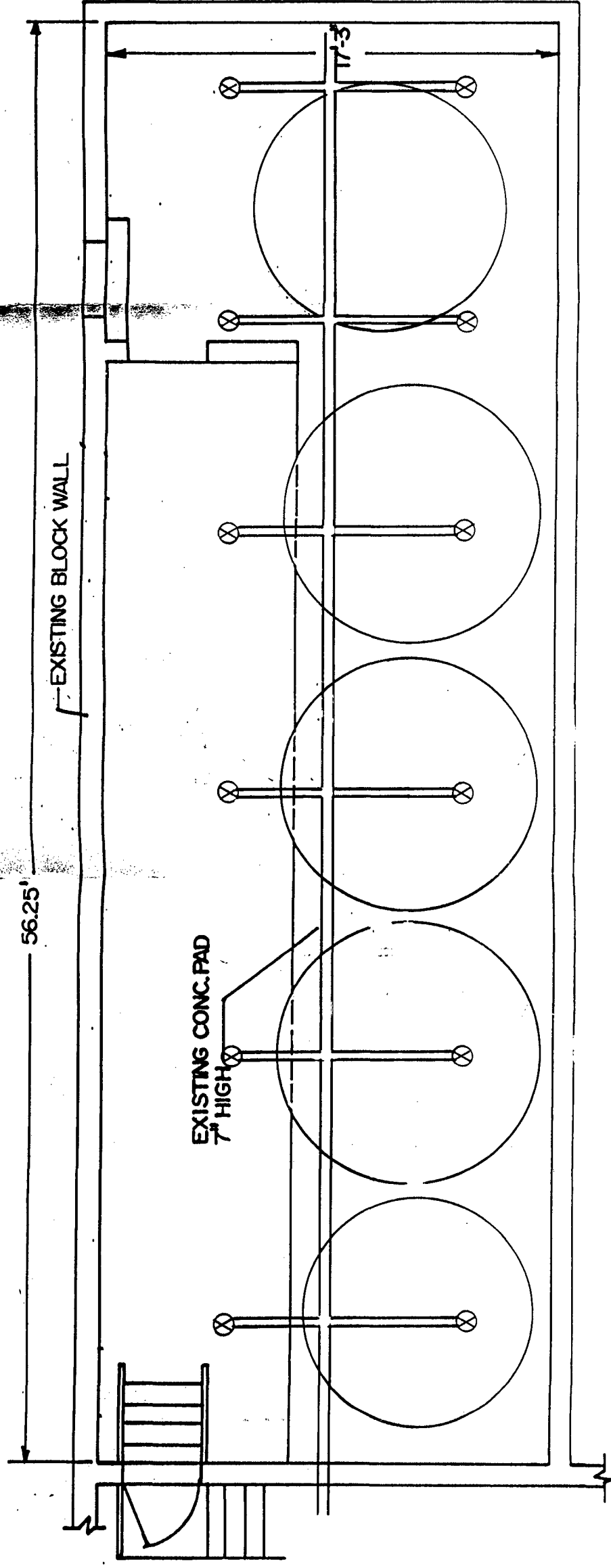


FIGURE 10.5
WASTE STORAGE TANKS
SPRINKLER SYSTEM LAYOUT
MACDERMID, INC.
526 HUNTINGDON AVE.
WATERBURY, CT.
APPROX. SCALE: 1"=5'

⊗ SPRINKLER HEAD

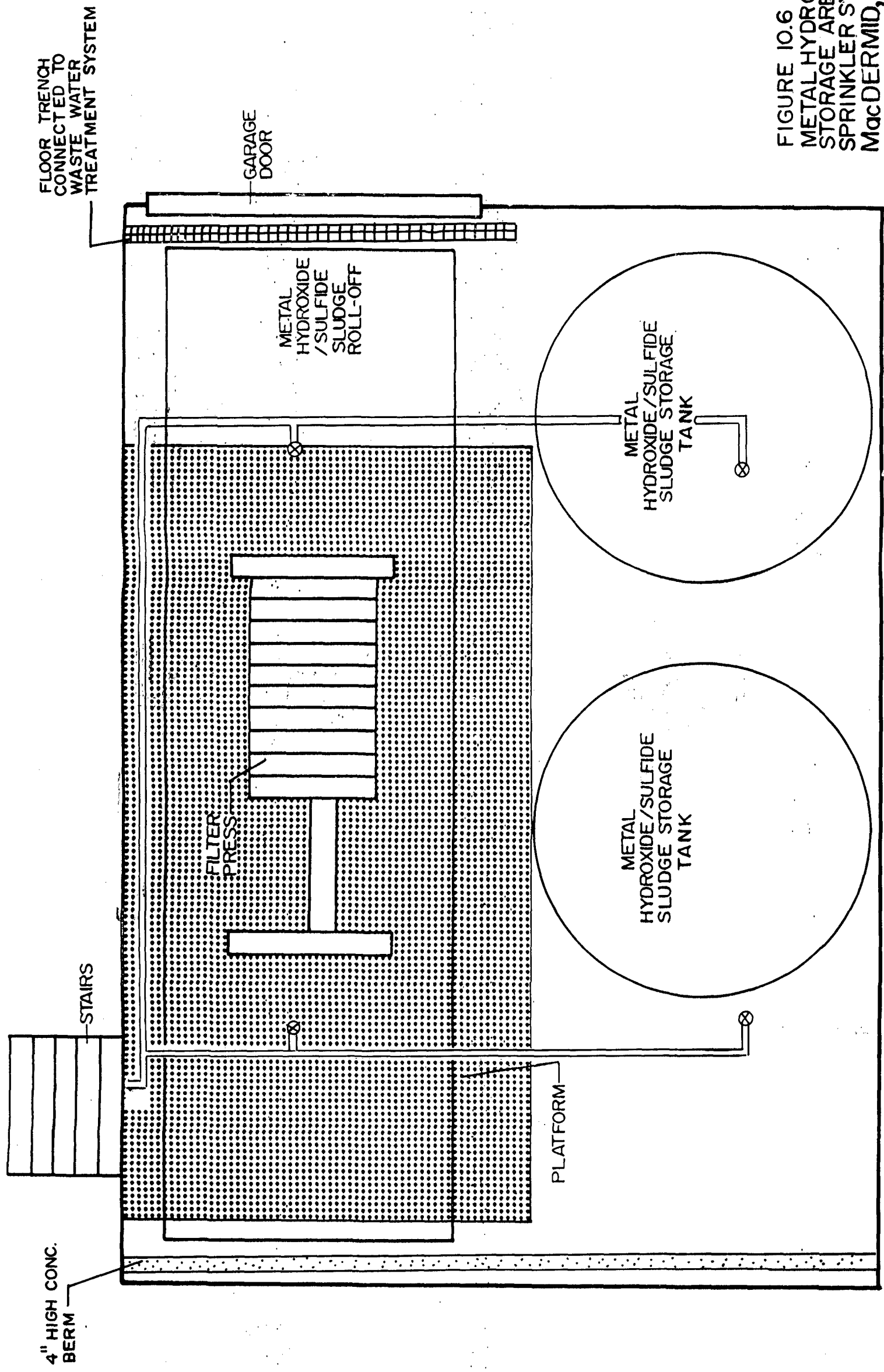


FIGURE 10.6
 METAL HYDROXIDE/SULFIDE SLUDGE
 STORAGE AREA
 SPRINKLER SYSTEM LAYOUT
 MacDERMID, INC.
 526 HUNTINGDON AVE.
 WATERBURY, CT.
 SCALE 3/8"=1'

10.7 Evacuation Plan

10.7.1 On-Site Evacuation Procedures

All emergencies require prompt and deliberate action. In the event of any major emergency, it will be necessary to follow an established set of procedures. Such established procedures will be followed as closely as possible; however, in specific emergency situations, the Emergency Coordinator may deviate from the procedures to provide a more effective plan for bringing the situation under control. The Emergency Coordinator is responsible for determining which emergency situations require plant evacuation.

MacDermid, Inc. employs an internal telephone and paging system. Specific instructions can be given over the facility's paging system. Key plant personnel can be contacted through the internal telephone and paging system. Total plant evacuation is initiated only by an Emergency Coordinator.

In the event plant evacuation is called for by the Emergency Coordinator, the following actions will be taken:

1. The signal for plant evacuation will be activated (warning followed by instructions over paging system).
2. All vehicle traffic within the plant will cease, to allow safe exit of personnel and movement of emergency equipment.
3. All personnel, visitors and contractors will immediately leave the facility area.

4. No persons shall remain or re-enter the location unless specifically authorized by the person(s) calling for evacuation. In allowing this, the person in charge assumes responsibility for those persons within the perimeter.
5. All persons will be accounted for by their respective Supervisors. Supervisors will designate certain doors as the safest exits for his/her employees and will also choose an alternate exit if the first choice is inaccessible. To assist in this endeavor, the Emergency Coordinator will use the internal telephone system to call the Supervisors to inform them of the nature of the emergency. If a supervisor is not present, all employees will exit through the designated emergency or alternate exits as posted on the emergency route map in their respective work area.
6. During exit, Supervisors should try to keep his/her group together. Exit routes and rally points for specific areas are shown on Figure 10.7.
7. No attempt to find persons not accounted for will involve endangering lives of others by re-entry into emergency areas.
8. Re-entry into the area will be made only after clearance is given by the Emergency Coordinator. At his direction, a signal or other notification will be given for re-entry into the plant.
9. In all questions of accountability, Supervisors will be held responsible for those persons reporting to them. Visitors will be the responsibility of those employees they are seeing. Contractors are the responsibility of those persons administering the individual contracts.
10. Drills will be held semi-annually to practice all of these procedures and will be treated with the same seriousness as an actual emergency.

10.7.1.1 On-Site Evacuation Routes

Evacuation routes are shown on
Figure 10.7. Employees are familiarized with
these routes and will take the most

**US EPA New England
RCRA Document Management System
Image Target Sheet**

RDMS Document ID # 100863

Facility Name: MACDERMID INC

Facility ID#: CTD001164599

Phase Classification: R-1B

Purpose of Target Sheet:

☒ **Oversized (in Site File)** ☐ **Oversized (in Map Drawer)**

☐ **Page(s) Missing (Please Specify Below)**

☐ **Privileged** ☐ **Other (Provide
Purpose Below)**

Description of Oversized Material, if applicable:

FIGURE 10.7: EVACUATION ROUTES

☒ **Map** ☐ **Photograph** ☐ **Other (Specify Below)**

*** Please Contact the EPA New England RCRA Records Center to View This Document ***

accessible route. There is no one specific route for a given employee, thus there are no specific alternate routes. Emergency escape routes are posted in all hazardous waste areas.

10.7.2 Off-Site Notification/Evacuation Procedures

To notify the neighboring properties in an emergency, MacDermid, Inc. has joined the City of Waterbury's Community Alert Network. The Community Alert Network is a telecommunicator service which, when activated by the public safety officials, will warn residents in the affected area of the dangers. A more detailed description of how this system works is provided as Attachment 1 in this section of the application.

10.8 Shut-Down of Operations

PRODUCTION BUILDING

Reclaim Department:	Shut off transfer operations, valves and pumps.
Bulk Etch Storage:	Turn off valves and pumps before leaving area.
Liquid Department:	Turn off all operations involving transfer pumping or filtration and mixtures. Turn off all heaters and mixing equipment.
Macuplex Department:	Same as Liquid Dept.
Pilot Department:	Same as Liquid Dept.
Dry Mix:	Shut down blending operation. LEAVE BLOWERS ON. Shut down pump transfer operations.

Shipping/Receiving:

Pull out trucks.

Office Areas:

Electrical Blackouts

Turn off all typewriters and copier machines.

Computer Equipment:

Turn off all computer terminals to avoid power surge.

Q.C./Lab:

Turn off all gas burners and electric heaters.

LEAVE HOOD VENTS ON.

NOTE:

ELECTRICITY AND SCRUBBERS, UNLESS TOLD OTHERWISE BY PLANT MANAGER, FIRE CHIEF OR OTHER FIRE DEPARTMENT OFFICIAL, KEEP SCRUBBERS AND ELECTRICITY ON.

GEAR STREET

Office Area:

Turn off typewriter and copier machine including during electrical blackouts.

Ink Lab:

Bunsen burners, solder pot, pressure chamber (pressure cooker).

Ink Production:

Shut down any transfers; turn off equipment.

Micro Production:

Shut off pumps, transfer pumps and valves on tanks.

Pilot Lab Area:

Shut off all transfer pumps. If reactor in use - turn it to cooling. DO NOT TURN REACTOR OFF.

NOTE:

ELECTRICITY AND SCRUBBERS, UNLESS TOLD OTHERWISE BY PLANT MANAGER, FIRE CHIEF OR OTHER FIRE DEPARTMENT OFFICIAL, KEEP SCRUBBERS AND ELECTRICITY ON.

GAS CONTROLS

In the event of a fire, the gas controls should be shut off, if possible, at the Production and Gear Street building by:

Yankee Gas Company

Locations:

1 Near East side of plant (near Dry Mix Area outside building)

1 by Liquid Mix Area - Main Shut-off, inside.

ELECTRICAL FEED PANELS/CONTROL CIRCUITS

Locations: Production:

Far East end of plant near dry Mix inside near exit door.

Far West end of plant in bulk storage area (etch, etc.) - inside.

Gear Street:

Micro Production - North wall
Surfactant Library

Ink Production - In vault on East Aurora Avenue.

The locations of feed panels/control circuits have been provided for general informational purposes only.

SPRINKLER VALVE CONTROL

Maintenance:

The entire plant is protected by a sprinkler system which is monitored by ADT. In the event of a fire, the sprinkler system, would come on and send an alarm to ADT who would then notify the Fire Department.

When the fire is under control, assigned personnel are to shut off the sprinkler valve(s) to minimize damage. They are to remain at the valve(s) in the event the fire should erupt again.

Job Description: The automatic sprinkler system is the plant's and Gear Street's main line of fire defense. But unless the valves controlling the flow of water to the sprinklers are open when fire strikes and remain open until the fire is controlled, sprinklers are useless. Even though a valve is locked open, the valve control man goes to the valve to make sure it is open and remains to close as soon as possible to minimize water damage.

LOCATION(S) OF VALVES:

Production: Outside - 3 outside on Huntingdon Avenue side.

- 1 - near Truck Garage
- 1 - near NE end of plant
- 1 - near Liquid Mix Area

New Warehouse: 1 - near Tank Farm
1 - near Ammonia Tank

Gear Street: 1 - outside near front door
1 - inside near Micro Dept. Entrance
1 - along E. Aurora (Outside)

SPRINKLER CONTROL VALVE MAN

DUTIES

A. Location of valves

The valve control man must know the location of every valve to which he is assigned and know the plant area which each controls.

B. Manually try valve

He must know how to operate the valve, how to try it; and know where the valve wrench and padlocks are kept which should be at the valves.

C. When the alarm sounds

The valve control man goes to the valve control line sprinklers for the fire area. He will unlock it to "try" it to make sure it is open.

D. Stand guard by the valve during the fire, keep it open and prevent anyone from shutting the valve without authorization from the Fire Chief. The valve is to be shut only by command of the Fire Chief.

E. The control valve man stands by prepared to reopen the valve for as long as the Chief considers necessary.

F. After the incident

The control valve man works in conjunction with the pipe fitter to restore normal sprinkler protection after the incident.

COMPLICATING FACTORS

1. Distance to valves.
2. Keys to locks as needed (bolt cutter).
3. Knowledge of protection system (system documented).
4. All valves covered, and back-up available if valve man is temporarily absent.

10.9 Reporting of Emergency Incidents [40 CFR Sections 264.56(i) and 264.56(j)]

After an emergency, within seven (7) days, the Emergency

Coordinator must report to the following agencies:

Connecticut Department of Environmental Protection
State Office Building
165 Capitol Avenue
Hartford, Connecticut 06106

Regional Administrator
U.S. Environmental Protection Agency
JFK Federal Building
Boston, Massachusetts 02203

The report must include:

- Name, address and telephone number of the owner/operator;
- Name, address and telephone number of the facility;
- Date, time and type of incident (e.g. fire, explosion);
- Name and quantity of material(s) involved;
- The extent of injuries, if any;
- An assessment of actual or potential hazards to human health or the environment, where applicable;
- Estimated quantity and disposition of recovered material that resulted from the incident;
- All differences between the emergency response activities actually taken and those prescribed in the contingency plan and the reasons for each such difference; and
- Proposed measures to prevent similar incidents in the future.

A copy of this report will be entered into the facility operating record.

Operations at MacDermid, Inc. shall not be resumed until MacDermid, Inc. notifies the Connecticut DEP that the facility is in compliance with 40 CFR Section 264.56(h), and the Connecticut DEP provides a written determination that operations may resume.

10.10 Contingency Plan Review/Location [40 CFR Section 264.54]

Under the following conditions, the Contingency Plan should be reviewed and revised.

- (1) The Part A or Part B Permits are revised;
- (2) The plan fails in an emergency;

- (3) The list of emergency coordinators changes;
- (4) The list of emergency equipment changes;
- (5) There is any change in the operation or maintenance of the facility; or
- (6) There occurs any other circumstance which indicates the need for a change in the contingency plan.

Whenever this plan is amended, the amended plan shall be submitted to the Connecticut DEP for approval.

New employees will be familiarized with all emergency response procedures. It is also recommended that an annual review should be made to update the Contingency Plan. The Emergency Coordinator at MacDermid, Inc. will be responsible for updating the plan as necessary, and distributing the updated plan to plant personnel, local authorities and the Connecticut DEP.

10.10.1 Location

Copies of the Contingency Plan will be kept at five (5) locations at MacDermid, Inc.

- 1) Main Office
- 2) Traffic Office
- 3) Safety/Regulatory Compliance Office (Freight Street)
- 4) Plant General Manager's Office
- 5) Outside Emergency Response Shed

10.11 Arrangements with Local Authorities [40 CFR Sections 264.52(c) and 264.53]

State and Federal regulations require arrangements be agreed to by local police and fire departments, hospitals, contractors, and State and local emergency response teams.

In fulfillment of the requirements of this part, MacDermid, Inc. has completed the following:

Familiarize the police and fire departments with:

- The layout of the facility
- Properties and hazards associated with the wastes handled at the facility
- Places where facility personnel would normally be working
- Entrances to the facility
- Evacuation routes

Agreements have been made with the Connecticut DEP Emergency Response Unit to provide support, as needed, during an actual emergency. St. Mary's and Waterbury Hospitals are familiar with the properties of wastes handled at the facility and the types of injuries or illnesses which could result from fires, explosions, or releases at the facility.

Said departments, agencies, and emergency response personnel will be requested to provide those services described below in the event of an actual emergency.

Each of the above agencies has been contacted and sent copies of MacDermid, Inc.'s Contingency Plan (see Attachment 2 of this section). The following arrangements are in place:

The Waterbury Police Department will provide the following assistance during an emergency:

- Primary emergency authority
- Immediate response
- Emergency transport services
- Crowd control assistance
- Communications support
- Security to affected area
- Evacuation of surrounding areas, if required.

The Waterbury Fire Department will provide:

- Primary emergency authority
- Immediate response
- Primary fire fighting services
- Rescue and emergency transport services
- Communications support

Waterbury and St. Mary's Hospitals have received a copy of the Contingency Plan and will provide:

- Primary medical services
- Rescue services

10.12 Training/Experience of Emergency Coordinators

The training/experience of the Emergency Coordinator and his alternates is as follows:

- | | |
|--|---|
| John Miele
(Emergency
Coordinator) | <ul style="list-style-type: none"> • Bachelor of Science in Chemical Engineering • 17 years on the job training • 24-hour OSHA 1910.120 Training Program • Lion Technology, Inc.'s Hazardous/Toxic Waste Management Seminar |
| Bill Schweiker | <ul style="list-style-type: none"> • Bachelor of Science in Chemistry • 17 years on the job training • 24-hour OSHA 1910.120 Training Program |
| Bob Ardzijauskas | <ul style="list-style-type: none"> • Bachelor of Science in Chemistry • 10 years on the job training • 24-hour OSHA 1910.120 Training Program |

Frank Cruice

- Bachelor of Science in Environmental Science
- Master in Occupational Safety in Health
- 2 years on the job training
- 24-hour OSHA 1910.120 Training Program
- AESF Environmental Conference, February, 1990.

ATTACHMENT 1

JOSEPH J. SANTOPIETRO
MAYOR



236 GRAND STREET
WATERBURY, CONNECTICUT 06702
(203) 574-6712

May 12, 1989

Frank Cruice
MacDermid, Inc.
245 Freight Street
Waterbury, CT 06702

Dear Mr. Cruice:

Personally, and on behalf of the City of Waterbury, I wish to express my appreciation to you for MacDermid's generous contribution of \$1000.00 to Waterbury's Community Alert Network Communication System.

Over the years, MacDermid has been an active and civic minded member of the Waterbury business community. This system will provide residents with timely information in the event of an emergency. We are indeed grateful and look forward to working with you in the future.

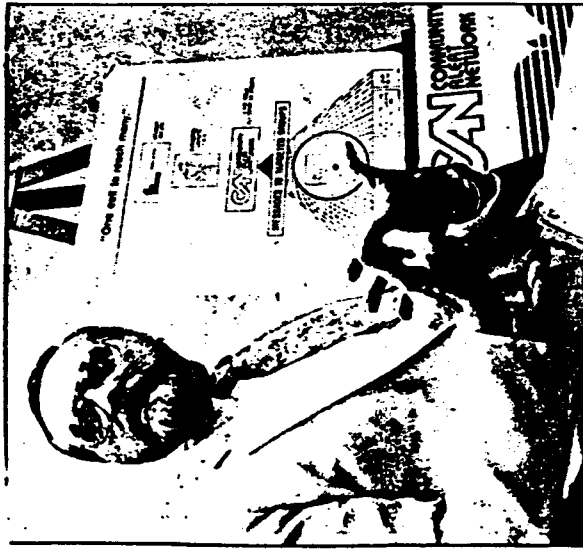
Once again, thank you for the donation. If there is anything my office can assist you with in the future, please do not hesitate to call.

Sincerely,


Joseph J. Santopietro
MAYOR

JJS/bs

major. txt



Ken Baechel, president of Community Alert Network, explains to city officials how the network works.

City buys equipment for emergency notification

By JACK GOLDBERG
Staff Writer

Saying his administration has acted to enhance the safety and protection of city residents, Mayor Joseph J. Santopietro on Tuesday announced the purchase of a citywide Community Alert Network.

The network allows public safety officials to notify city residents of an emergency situation, Santopietro said. Once activated by public safety officials, the network, which is composed of a number of computer-driven telephones, phones residents by computer to warn them of danger.

Santopietro made the announcement during a half-hour press conference, which was attended by city and company officials.

"When the service comes on-line early in August, we will have at our disposal a telecommunications service which will assist ... in alerting and providing residents with crucial information," Santopietro said.

Waterbury becomes the second city in Connecticut — Danbury was the first — and the 24th client overall of the company, which has been in business since 1981, according to company President Ken Baechel.

"In an age when rapidly advancing technology possesses added potential for manmade mishaps, coupled with the ever-present danger of natural disasters, it is incumbent upon any responsible government to provide increased awareness, pre-

vention and protection for our citizens," the mayor said.

The service's initial cost is \$22,000 for one year; Waterbury is receiving a 25 percent discount because it is one of the first cities signing up, Santopietro said. Contributions from private industry come to \$5,400, leaving the city an \$11,100 bill.

Baechel said the cost should decrease to about \$11,000 each year and he hopes it will be reduced further as more municipalities, counties, states and departments purchase it. Clients now include the New York counties of Albany, Schenectady, Orange, Niagara and Montgomery, the New Mexico Corrections Department and Con Edison's Indian Point nuclear power plant.

Santopietro said the city will have the capability of calling residents all over the city, in just certain areas, by zip code or by block and giving them vital information. It is one more tool the city has to use in an emergency, he said.

Baechel played a tape-recording of an alert that went to New Mexico citizens in an area near where an escape occurred, showing the system's potential. Tape-recordings can be updated as needed.

Acting Fire Chief Michael Izzo said he was in Albany visiting his daughter recently when the system was used to look for a missing child, prompting a surprised and delighted Baechel to say, "You never told me that, Mike."

Civil Preparedness Director Elaine Longino said people with unlisted numbers can have their telephone numbers put into the computer's database by writing CAN, 301 Nott St., Schenectady, N.Y. 12305-1039. Baechel promised the unlisted numbers would not be given out and would be kept private.

He said the city is purchasing 122 hours of telephone time, which is based on Waterbury's population. If additional hours are needed, which almost certainly will not happen, Baechel said, the city then would pay \$65 per hour.

He said the only complaint he has received was from a woman whose telephone number was unchanged in the computer after she moved and she was awakened needlessly at 2:30 a.m. for an alert.

Baechel said the system is capable of making 2,500 telephone calls in an hour. A West Coast facility soon will be added, which will double the system's capacity.

Santopietro praised the response from the industrial and manufacturing community, saying they recognized their obligation to the city and contributed donations to defray the cost of the service.

Making \$1,000 contributions were Somers Thift, Sirip, Hubbard-Hall Inc., MacDermid Inc. and Environmental Waste Resources. American Chemical and Refining Co. Inc. and an anonymous contributor each gave \$500. Waterbury Plating gave \$300 and Fleisher Finishing Inc. gave \$100.

What is C.A.N.?

Community Alert Network is a unique telecommunications service which assists communities and organizations in notifications using high technology to contact people quickly. The NETWORK is a tool to be used by public safety and other officials for contacting people in a targeted area or on a specified list with telephone calls providing critical information:

This is an emergency message from...

...There's been an accident involving toxic materials near your home...

...There's a child missing in your neighborhood. He was last seen at...

...The river is reaching flood stage and we advise...

...Tropical storm Camille has now reached full hurricane force and...

...Please evacuate to the corner of Main and Spring streets, where a bus will pick you up...

...Tune in your emergency broadcast station immediately for details...

Using a series of computers and a recorded human voice message, the NETWORK rapidly and efficiently contacts and informs the targeted community by telephone.

The Community Alert Network is flexible; with capabilities to notify and inform the public about a never ending list of situations:

- Toxic & radioactive material spills
- Jail breaks & institutional escapes
- Severe weather warnings (hurricanes or tornados)
- Floods and dam failures
- Missing children/persons
- Evacuations
- Emergency personnel notifications
- Industrial accidents
- Military mobilizations
- Nuclear incident
- Water and gas main breaks
- Water and food contamination
- Fires
- Explosions
- _____
- _____
- _____
- _____
- _____
- _____
- Etc.

Why is C.A.N. essential?

The NETWORK is the most efficient way to directly reach a Community with important information. It allows the Community to take immediate positive action in a crisis. It saves valuable time, personnel, money and lives. As public safety and other officials concentrate on the emergency, the NETWORK is quickly alerting and informing the Community.

How does C.A.N. operate?

Through a prior Agreement, the NETWORK is prepared on a moment's notice, to inform residents of critical situations. Emergency officials need only contact CAN to detail the situation and specify the areas or lists to be called. Within minutes, the NETWORK sets its facilities to work.



"Available Coast to Coast"

Why does C.A.N. require an Agreement?

To be prepared for emergencies, the NETWORK must have the phone numbers programmed into its system in advance. The NETWORK can be ready for use within 60 days.

The Agreement includes a "bank" of network time for your usage.

Who decides how and when C.A.N. is used?

NETWORK calling begins only at the direction of local public safety agencies or other designated emergency officials with an authorized password.

Is C.A.N. always available for Community use?

YES! The NETWORK is available 24 hours per day, seven days per week throughout the United States and Canada.

What does C.A.N. cost?

The Agreement for one year's service, including all programming is based upon a formula that takes into consideration your size and potential for use. C.A.N. service contracts available for as little as \$2,500 per year (U.S. currency).

Who pays for C.A.N.?

The Community or organization that contracts for the NETWORK, pays for the service. Local industry sponsors have demonstrated their willingness through donations to assist their communities in establishing and maintaining the service.

You CAN make a difference!

For more information contact:



301 Nott Street
Schenectady, New York 12305-1039
800-992-2331
518-382-8007
FAX 518-382-0675

The most frequently asked questions about



"Available Coast to Coast"
Since 1981



A TEAMS CONCEPT

TIMELY
EMERGENCY
ALERTING
MEANS
SAFETY



"Available Coast to Coast"

Since 1981

301 Nott Street • Schenectady, NY 12305-1039

800-992-2331

TITLE III PUBLIC NOTIFICATION SERVICE

THE PROBLEM:

Availability of a public alert system that meets the requirements of The Federal Superfund And Reauthorization Act (SARA) Title III for Emergency Response and Community Right-To-Know.

— **Reliable**

— **Efficient**

— **Timely**

— **Cost Effective**

THE SOLUTION:

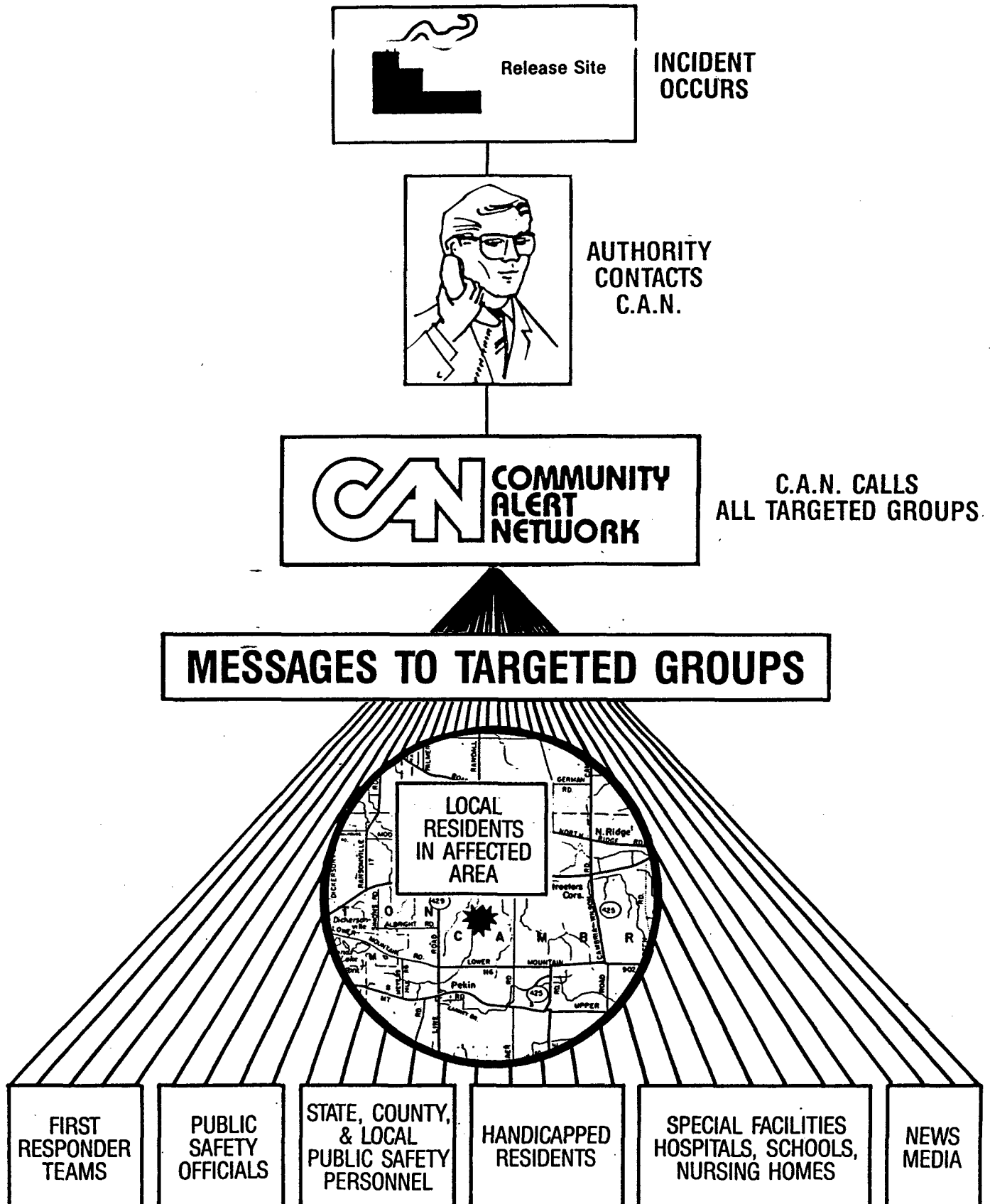
The Community Alert Network, a computer-telephone technology meets the federal criteria for public alerting systems as mandated in Title III.

The service is the best available to provide **reliable, timely, and efficient** alerting to thousands of households, special facilities and recall of emergency personnel in the event of **any** community emergency.

Working with the local government, emergency and industry officials, the **COMMUNITY ALERT NETWORK** team of expert public safety and computer professionals will design and provide the best emergency notification service available anywhere. **THE COMMUNITY ALERT NETWORK** concept addresses the Title III notification mandates and more importantly, enhances the safety of all who live and work in your community.

Call 1-800-992-2331 for more details on how the **COMMUNITY ALERT NETWORK** is already assisting corporations and local governments in emergency public notification—and how it can work in your area!

“One call to reach many.”



HOW C.A.N. WORKS

- I. Community Alert Network contracts with a municipality to provide public safety officials with an exceptionally reliable, efficient and effective service for community alert and emergency response. Databases of phone numbers are established for each unique contract.
- II. Once the database is in place, CAN is ready to assist in any emergency situation: toxic chemical spill, missing persons, industrial accidents, severe weather, floods, institutional escapes, water/gas main breaks, nuclear incidents, etc.
- III. When an incident has occurred or threatens and has been reported to the appropriate local public safety official, the notifying process has begun.
- IV. The designated official contacts CAN via a 24 hour emergency phone number and dictates an access code and password to the CAN operator.
- V. The emergency official identifies the specific geographic area that has or will be affected by the incident and dictates the message to be delivered to the residents of this area. Some messages may have been pre-recorded and simply need to be recalled. All messages are digitally recorded on magnetic disks for use by CAN computers.
- VI. After identifying which of any specially predetermined groups such as response teams, public safety officials, hospitals, schools, nursing homes or the news media are to be alerted, the official dictates the message that is to be delivered to each of these groups.
- VII. The computers at Community Alert Network begin sorting the established database for the municipality to create a calling file for this specific incident. All the phone numbers in the database for both the identified geographical area and for the special groups are listed according to the message they are to receive.
- VIII. The computers at CAN begin calling the requested phone numbers and delivering the designated message.
- IX. CAN will initially make three attempts to contact any busy or unanswered phone number. Following three attempts to complete all calls, a report of the calling session is printed and the summary information regarding number of calls made, completed, busy and no answer is shared with the client. Any client may request that additional calls be made to previously busy or unanswered phone numbers.
- X. The final report of all calling activity is delivered to the client by first class mail or FAX if previously arranged.

REPORT FORM

COMMUNITY ALERT NETWORK

INCIDENT REPORT

09-13-88

Address	Telephone Number	Atmpts 1 2 3	Stat Code	Time	Date
100 Spring Street	123 3219088	*	10	20:19	09-13-1988
101 Spring Street	123 3211378	*	10	20:25	09-13-1988
102 Spring Street	123 3219159	*	10	20:26	09-13-1988
103 Spring Street	123 3219858	* *	10	20:30	09-13-1988
105 Spring Street	123 3210938	* * *	11	20:41	09-13-1988
110 Spring Street	123 3213348	* * *	10	20:42	09-13-1988
2110 Elmwood Drive	123 3218265	* * *	8	20:39	09-13-1988
2112 Elmwood Drive	123 3218263	* * *	7	20:39	09-13-1988
2113 Elmwood Drive	123 3214964	*	10	20:23	09-13-1988
2114 Elmwood Drive	123 3219055	*	10	20:22	09-13-1988
2120 Elmwood Drive	123 3212519	* *	10	20:27	09-13-1988
11 Hampton Court	123 3210901	*	10	20:21	09-13-1988
12 Hampton Court	123 3219995	* * *	11	20:21	09-13-1988
13 Hampton Court	123 3214923	*	10	20:21	09-13-1988
14 Hampton Court	123 3214285	* *	10	20:33	09-13-1988
15 Hampton Court	123 3211089	* *	10	20:33	09-13-1988

Total Calls Made: 16
Completed Calls: 12
Busy Signals: 1
No Answer: 1
Intercepts: 2

Status Code Meanings

'10' Completed Call
'7' Busy Signal
'8' No Answer
'11' Op. Int'cept/Ans. Mach.

Incident Filename: 140E025F.cal

WHAT THE EXPERTS HAVE TO SAY

"Thank you very much for your professional and effective assistance during the January 22, 1988, hostage incident and February 23 escape from the Penitentiary of New Mexico. The Community Alert Network performed to our highest expectations in notifying residents in the surrounding neighborhoods.

The Network has been a great public relations tool with our neighbors."

Secretary, State of New Mexico Corrections Dept.

"It's a wonderful opportunity to gain a countywide emergency alert system rather than six separate systems that would have only covered a one-mile radius around each plant."

Emergency Management Coordinator, Calhoun County, TX

"Last week's disaster was the first time the system (CAN) was used and it worked wonderfully."

Sheriff, Niagara County, NY

"The Community Alert Network was especially helpful in notifying residents for the need to evacuate their homes."

Mayor, City of North Tonawanda, NY

"Your rapid response to our request on March 15th, 16th and again on the 19th gave us the capability of alerting residents in a way that was never before possible."

Director of Emergency Management, Schenectady County, NY

CAN COMMUNITY ALERT NETWORK

Telephone-calling computers help out in urgent situations

Missing child alert is tested

By MARY ANNE LEONARD

Shortly after a child is reported missing, Albany County residents might be getting a call from a computer, describing the child and telling them to look on their TV for more information.

The Missing Child/Community Alert Network, which is currently being tested, is the first of its kind in the nation. It is a computerized system that can be activated by a person, such as a parent, or by a police officer.

The project began the week in Albany County and will be tested on a group of residents in the Capital District, which is the area around Albany.

There is the way the system operates. When a child is reported missing, the system is activated. The computer then calls all the homes in the area and tells them to look on their TV for more information.

It will be shown on Channel 8, the public access channel.

Although the project refers to missing children, the system could be used to alert residents in other emergency situations, such as a fire or a flood.

Albany County Sheriff George L. Baechel said the system would be a valuable tool for law enforcement. He said it would be a way to get the word out quickly to the public.

"At the moment, you can find a car with a license plate number," he said. "But you can't find a child with a license plate number."

been tested in the past. In 1976, a missing child was found in a car. The car was found in a field near the Albany County Jail. The child was found in the car. The car was found in a field near the Albany County Jail. The child was found in the car.

Will Start April 1—
Telephone Blitz to Aid Child Searches

By MARY ANNE LEONARD

The Missing Child/Community Alert Network, which is currently being tested, is the first of its kind in the nation. It is a computerized system that can be activated by a person, such as a parent, or by a police officer.

The project began the week in Albany County and will be tested on a group of residents in the Capital District, which is the area around Albany.

There is the way the system operates. When a child is reported missing, the system is activated. The computer then calls all the homes in the area and tells them to look on their TV for more information.

When the computer gets a message or a report of a missing child, it automatically calls all the homes in the area. The computer then tells them to look on their TV for more information.

The system is a computerized system that can be activated by a person, such as a parent, or by a police officer. The system is a computerized system that can be activated by a person, such as a parent, or by a police officer.

What the Waters Did in Montgomery County FLOOD: CAN Works

Emergency Communications Sped Warning About Creek

By SAM ZILBO

When the waters of the North Branch of the Hudson River rose to flood levels in Montgomery County, the CAN system was activated. The system is a computerized system that can be activated by a person, such as a parent, or by a police officer.

The system is a computerized system that can be activated by a person, such as a parent, or by a police officer. The system is a computerized system that can be activated by a person, such as a parent, or by a police officer.

Telephone network will help locate missing children

By KATHLEEN RYAN
County Youth Bureau, The



Clients dial up Sch'dy company when danger threatens to strike

By SHERRY HALBROOK

Shortly after 6 a.m. on June 26, nearly 7,000 gallons of gasoline poured through a ruptured line at a gas station in the Buffalo suburb of North Tonawanda. Several hundred gallons made their way into the city's sewer system.

an take immediate action. The city of Buffalo is taking immediate action to deal with the situation. The city of Buffalo is taking immediate action to deal with the situation.

TV, phone to aid search for children

By MARY ANNE LEONARD

The Missing Child/Community Alert Network, which is currently being tested, is the first of its kind in the nation. It is a computerized system that can be activated by a person, such as a parent, or by a police officer.

Alarm Net Is Readied For Niagara

By JOANNE GELLES

The Missing Child/Community Alert Network, which is currently being tested, is the first of its kind in the nation. It is a computerized system that can be activated by a person, such as a parent, or by a police officer.

National command centers would strengthen CAN's entire operation

By MARY ANNE LEONARD

The Missing Child/Community Alert Network, which is currently being tested, is the first of its kind in the nation. It is a computerized system that can be activated by a person, such as a parent, or by a police officer.

Albany Co. to begin missing child program

By Joe Picchi

The Missing Child/Community Alert Network, which is currently being tested, is the first of its kind in the nation. It is a computerized system that can be activated by a person, such as a parent, or by a police officer.

Chemical Spill Brings Call for Alert Network

By MARY ANNE LEONARD

The Missing Child/Community Alert Network, which is currently being tested, is the first of its kind in the nation. It is a computerized system that can be activated by a person, such as a parent, or by a police officer.

Schenectady firm readies system for disaster dialing

By MARY ANNE LEONARD

The Missing Child/Community Alert Network, which is currently being tested, is the first of its kind in the nation. It is a computerized system that can be activated by a person, such as a parent, or by a police officer.

Alarm Net Is Readied For Niagara

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The Missing Child/Community Alert Network, which is currently being tested, is the first of its kind in the nation. It is a computerized system that can be activated by a person, such as a parent, or by a police officer.

Phone network 'reaches out' in case of area emergency

By MEL HYMAN

The Missing Child/Community Alert Network, which is currently being tested, is the first of its kind in the nation. It is a computerized system that can be activated by a person, such as a parent, or by a police officer.

County OKs funds for missing children

By MARY ANNE LEONARD

The Missing Child/Community Alert Network, which is currently being tested, is the first of its kind in the nation. It is a computerized system that can be activated by a person, such as a parent, or by a police officer.

Local Firm's Auto-Dial Tele To Help Abduction Investigation

By MARY ANNE LEONARD

The Missing Child/Community Alert Network, which is currently being tested, is the first of its kind in the nation. It is a computerized system that can be activated by a person, such as a parent, or by a police officer.

Missing Elderly Man Found After Night Spent Outdoors

By MARY ANNE LEONARD

The Missing Child/Community Alert Network, which is currently being tested, is the first of its kind in the nation. It is a computerized system that can be activated by a person, such as a parent, or by a police officer.

Computers making emergency calls

By MARY ANNE LEONARD

The Missing Child/Community Alert Network, which is currently being tested, is the first of its kind in the nation. It is a computerized system that can be activated by a person, such as a parent, or by a police officer.

Missing child alert tested

By MARY ANNE LEONARD

The Missing Child/Community Alert Network, which is currently being tested, is the first of its kind in the nation. It is a computerized system that can be activated by a person, such as a parent, or by a police officer.

Niagara County alert system proved its worth in gas leak

By MARY ANNE LEONARD

The Missing Child/Community Alert Network, which is currently being tested, is the first of its kind in the nation. It is a computerized system that can be activated by a person, such as a parent, or by a police officer.

City of North Tonawanda

By MARY ANNE LEONARD

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A DIVISION OF A.C.I.

REFERENCES

Fred Pyzanowski
Emergency Management Director
Schenectady County, New York
(518) 370-3113

Dr. R. N. Knowles, Manager
E. I. DuPont
Belle, West Virginia
(304) 357-1000

David D. Bell
New York Power Authority
Indian Point 3 Nuclear Power Plant
(914) 736-8403

Sheriff George L. Infante
Albany County
Albany, New York
(518) 445-7515

Philip M. Schmer
Office of Emergency Management
Orange County, New York
(914) 294-7422

Bill McGee
Formosa Plastics Corporation
Point Comfort, Texas
(512) 987-2666

Clarence M. Beauvais
City of Leominster
Leominster, Massachusetts
(508) 534-7850

Wilbur W. Conlea
City of Danbury
Danbury, Connecticut
(203) 797-4630

Sheriff Francis L. Giles
Niagara County
Lockport, New York
(716) 439-9370

George H. Liebler
Consolidated Edison
Indian Point Nuclear Power Plant
(914) 526-5253

Donald Theus
Union Carbide Corporation
Port Lavaca, Texas
(512) 553-2231

Sheriff Ronald Emery
Montgomery County
Fonda, New York
(518) 853-4435

Donald P. McGuire
Office of Emergency Management
Rockland County, New York
(914) 354-8259

Roberta M. Fox, Director
Office of Emergency Preparedness
Montgomery County, New York
(518) 853-4011

Billy Zwerschke
Emergency Management Coordinator
Calhoun County, Texas
(512) 552-3226

Kevin Jackson
Corrections Department
State of New Mexico
Santa Fe, New Mexico
(505) 827-8661



A DIVISION OF A.C.I.

GEOGRAPHIC CONTRACT RATES

CONTRACT	RATE	TELEPHONE # IN DATABASE	USAGE
YEAR 1	\$.18 PER PERSON MINIMUM-\$22,000	ENTIRE RESIDENTIAL AREA	ONE HOUR OF TLCT* FOR EVERY 1,000 PEOPLE IN POPULATION BASE INCLUDED IN CONTRACT- MINIMUM 122 HOURS
RENEWAL	\$.09 PER PERSON MINIMUM-\$11,000	ENTIRE RESIDENTIAL AREA	REPLENISH TLCT USED DURING PREVIOUS YEAR AT \$65/HOUR

ANNUAL FEE INCLUDES CLIENT PROVIDED PRIORITY PHONE NUMBER LISTING IN AS MANY AS 10 SEPARATE CONFIGURATIONS: TOTAL NUMBER OF UNIQUE PHONE NUMBERS NOT TO EXCEED 1,000. CLIENT PROVIDED QUARTERLY UPDATES OF PRIORITY LISTS VIA MAGNETIC MEDIA ACCEPTED. FACSIMILE (FAX) SERVICE INCLUDED.

*TLCT-TELECOMPUTER LINE CALLING TIME

PRICES SUBJECT TO CHANGE AFTER JANUARY 1, 1989

301 Nott Street • Schenectady, NY 12305-1039

800-992-2331

ATTACHMENT 2



MacDermid
INCORPORATED

245 FREIGHT STREET - WATERBURY, CONNECTICUT 06702 - TELEPHONE (203) 575-5700 - TELEX 4436011 - FAX 203-575-7900

June 22, 1989

Barracks Commander
CT. State Police Barracks
Rt. 69
Bethany CT 06525

Re: HAZARDOUS WASTE CONTINGENCY PLAN NOTIFICATION

Dear Sir:

I would like to take this opportunity to ensure that your organization received a copy of MacDermid's Hazardous Waste Contingency Plan. Our records indicate that they were mailed. To ensure full compliance with MacDermid's RCRA Part B Permit, another copy has been attached for your use.

Should you have any questions regarding this letter, or require additional information, please feel free to contact me.

Sincerely,

Frank J. Cruice
Corp. Safety & Regulatory
Compliance Manager

cc: D. Stokes
C. Gillis
file



MacDermid
INCORPORATED

245 FREIGHT STREET - WATERBURY, CONNECTICUT 06702 - TELEPHONE (203) 575-5700 - TELEX 4436011 - FAX 203-575-7900

June 22, 1989

William F. Appicelli
Assistant Executive Director
St. Mary's Hosp.
56 Franklin Street
Waterbury, CT 06702

Re: HAZARDOUS WASTE CONTINGENCY PLAN NOTIFICATION

Dear Mr. Appicelli:

I would like to take this opportunity to ensure that your organization received a copy of MacDermid's Hazardous Waste Contingency Plan. Our records indicate that they were mailed. To ensure full compliance with MacDermid's RCRA Part B Permit, another copy has been attached for your use.

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245 FREIGHT STREET - WATERBURY, CONNECTICUT 06702 - TELEPHONE (203) 575-5700 - TELEX 4436011 - FAX 203-575-7900

June 22, 1989

Elaine Longino
Director
WTBY. Office of Civil Preparedness
City of Waterbury
236 Grand Street
Waterbury, CT 06702

Re: HAZARDOUS WASTE CONTINGENCY PLAN NOTIFICATION

Dear Elaine:

I would like to take this opportunity to ensure that your organization received a copy of MacDermid's Hazardous Waste Contingency Plan. Our records indicate that they were mailed. To ensure full compliance with MacDermid's RCRA Part B Permit, another copy has been attached for your use.

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Sincerely,

Frank J. Cruice
Corp. Safety & Regulatory
Compliance Manager

cc: D. Stokes
C. Gillis
file



MacDermid
INCORPORATED

245 FREIGHT STREET - WATERBURY, CONNECTICUT 06702 - TELEPHONE (203) 575-5700 - TELEX 4436011 - FAX 203-575-7900

June 22, 1989

Michael A. Izzo
Acting Fire Chief
WTBY. L.E.P.C. Coord.
City of Waterbury
235 Grand Street
Waterbury, CT 06702

Re: HAZARDOUS WASTE CONTINGENCY PLAN NOTIFICATION

Dear Chief Izzo:

I would like to take this opportunity to ensure that your organization received a copy of MacDermid's Hazardous Waste Contingency Plan. Our records indicate that they were mailed. To ensure full compliance with MacDermid's RCRA Part B Permit, another copy has been attached for your use.

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Sincerely,

Frank J. Cruice
Corp. Safety & Regulatory
Compliance Manager

cc: D. Stokes
C. Gillis
file



MacDermid
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June 22, 1989

Michael A. Izzo
Acting Fire Chief
WTBY. L.E.P.C. Coord.
City of Waterbury
235 Grand Street
Waterbury, CT 06702

Re: HAZARDOUS WASTE CONTINGENCY PLAN NOTIFICATION

Dear Chief Izzo:

I would like to take this opportunity to ensure that your organization received a copy of MacDermid's Hazardous Waste Contingency Plan. Our records indicate that they were mailed. To ensure full compliance with MacDermid's RCRA Part B Permit, another copy has been attached for your use.

Should you have any questions regarding this letter, or require additional information, please feel free to contact me.

Sincerely,

Frank J. Cruice
Corp. Safety & Regulatory
Compliance Manager

cc: ~~D. Stokes~~
C. Gillis
file



MacDermid
INCORPORATED

245 FREIGHT STREET - WATERBURY, CONNECTICUT 06702 - TELEPHONE (203) 575-5700 - TELEX 4436011 - FAX 203-575-7900

June 22, 1989

Dr. Dada Jabbour
Dir. Hazardous Materials
WTBY. Health Dept.
City of Waterbury
402 East Main Street
Waterbury, CT 06702

Re: HAZARDOUS WASTE CONTINGENCY PLAN NOTIFICATION

Dear Dr. Jabbour:

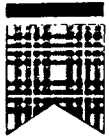
I would like to take this opportunity to ensure that your organization received a copy of MacDermid's Hazardous Waste Contingency Plan. Our records indicate that they were mailed. To ensure full compliance with MacDermid's RCRA Part B Permit, another copy has been attached for your use.

Should you have any questions regarding this letter, or require additional information, please feel free to contact me.

Sincerely,

Frank J. Cruice
Corp. Safety & Regulatory
Compliance Manager

cc: ~~D. Stokes~~
C. Gillis
file



MacDermid
INCORPORATED

245 FREIGHT STREET - WATERBURY, CONNECTICUT 06702 - TELEPHONE (203) 575-5700 - TELEX 4436011 - FAX 203-575-7900

June 22, 1989

Michael Lamb
Superintendent
WTBY. Police Dept.
City of Waterbury
235 Grand Street
Waterbury, CT 06702

Re: HAZARDOUS WASTE CONTINGENCY PLAN NOTIFICATION

Dear Superintendent Lamb:

I would like to take this opportunity to ensure that your organization received a copy of MacDermid's Hazardous Waste Contingency Plan. Our records indicate that they were mailed. To ensure full compliance with MacDermid's RCRA Part B Permit, another copy has been attached for your use.

Should you have any questions regarding this letter, or require additional information, please feel free to contact me.

Sincerely,

Frank J. Cruice
Corp. Safety & Regulatory
Compliance Manager

cc: D. Stokes
C. Gillis
file



MacDermid
INCORPORATED

245 FREIGHT STREET - WATERBURY, CONNECTICUT 06702 - TELEPHONE (203) 575-5700 - TELEX 4436011 - FAX 203-575-7900

June 22, 1989

Henry Renfrew
State Fire Marshall's Office
State Of CT.
294 Colony Street
Meridenry, CT 06450

Re: HAZARDOUS WASTE CONTIGENCY PLAN NOTIFICATION

Dear Mr. Renfrew:

I would like to take this opportunity to ensure that your organization received a copy of MacDermid's Hazardous Waste Contingency Plan. Our records indicate that they were mailed. To ensure full compliance with MacDermid's RCRA Part B Permit, another copy has been attached for your use.

Should you have any questions regarding this letter, or require additional information, please feel free to contact me.

Sincerely,

Frank J. Cruice
Corp. Safety & Regulatory
Compliance Manager

cc: D. Stokes
C. Gillis
file

64 ROBBINS STREET, WATERBURY, CONNECTICUT 06721
WATERBURY HOSPITAL HEALTH CENTER
JOHN H. TOBIN, President



DIVISION OF EMERGENCY MEDICINE

received
5/4/90

May 1, 1990

Mr. Frank J. Cruice
Corp. Safety & Regulatory Compliance Manager
MacDermid Corporation
245 Freight Street
Waterbury, CT 06702

Dear Mr. Cruice:

In request to your phone call this morning, I checked our file for area companies contingency plans. I received an updated emergency beeper number call list from your company on January 4, 1990. The next previous contact from you was June 23, 1989, requesting a letter of confirmation of receipt for that last update of your contingency plan. There is no date on our copy of your contingency plan in our files that I could see, but it obviously was just prior to your letter dated June 22, 1989.

I hope this fulfills your request. If not, please feel free to contact me for additional information.

Sincerely,

A handwritten signature in dark ink, appearing to read "Dennis R. Pilarczyk".

Dennis R. Pilarczyk, M.D.
Director
Division of Emergency Medicine

DRP/csg



11.0 OPERATING RECORDS

11.1 Introduction [40 CFR Section 264.73]

Owners or operators of TSDFs are required, under 40 CFR Section 264.73, to keep a written operating record on site until closure of the facility. The information which must be recorded and maintained in the operating records for MacDermid, Inc. is the following:

- Description and the quantity of each hazardous/CT-regulated waste received and the method(s) and date(s) of its treatment, storage at the facility or shipment off site.
- Location and quantity of hazardous/CT-regulated waste within the facility and corresponding manifesting numbers.
- Records and results of waste analyses and trial tests performed as specified in Sections 264.13, 264.17 and 264.31.
- Summary reports and details of all incidents that require implementing the contingency plan as specified in Section 264.56(j).
- Records and results of inspections as required by Section 264.15(d).
- Training records on current and former personnel as required by Section 264.16(e).
- Copies of manifest forms accompanied by hazardous waste shipments received or shipped from the facility as required by Section 264.71(b)(5).
- Monitoring, testing, or analytical data where required by Sections 264.90, 264.94, 264.276, 264.278, 264.280(d)(I), 264.347, and 264.377.
- All closure cost estimates under Section 264.142.
- Notices to generators as specified in 264.12(b).

11.2 Recordkeeping of Type and Quantity of Hazardous/CT-Regulated Waste

At MacDermid, Inc., hazardous and CT-regulated wastes are stored in containers and tanks. The general location of the storage facilities (container storage areas, loading/unloading areas and storage tanks) employed at this facility are shown on Figure 2.1.

To maintain a continuous record of the type and quantity of bulk copper etchant received at, recycled, and shipped from this facility, the following Operating Logs are used:

- Log B1 - Waste Storage Tank - Running Inventory, Tank #1 (see Figure 11.1).
- Log B2 - Waste Storage Tank - Running Inventory, Tank #2 (see Figure 11.2).
- Log B3 - Waste Storage Tank - Running Inventory, Tank #3 (see Figure 11.3).
- Log B4 - Waste Storage Tank - Running Inventory, Tank #4 (see Figure 11.4).

In addition to the Operating Logs listed above, MacDermid, Inc. also employs batch cards to record the amount of waste material and virgin product utilized in the recycling process. The information included under these batch cards (see Figure 11.5) includes the following:

- Operating description;
- Amount of waste material and virgin material issued, returned and used;
- Date these materials were issued and returned; and
- MacDermid's three digit identification number of waste material removed from storage.

These batch cards which are returned to the QC Department will be kept for two years (beginning May, 1990) and will be maintained as part of the operating record.

11.3 Manifest Recordkeeping
[40 CFR Sections 264.71(a)(5) and 265.73(b)(2)]

All hazardous and CT-regulated wastes received and shipped off-site must be accompanied by a properly completed manifest, and disposed of at a permitted facility.

As required under Section 264.71(a)(5), copies of the completed manifest must be retained at the facility for at least three (3) years from the date of receipt. Under the Uniform Manifest System, copies 3 and 8 must be kept for all wastes disposed of off site and copy 4 for all waste received on site.

11.4 Laboratory Analysis Records

[40 CFR Sections 264.13 and 254.73(b)(3)]

Records of waste analysis are updated after each analysis is performed. These results are maintained on-site for at least three years.

11.4.1 Hazardous Waste Analysis

A file is kept individually for each waste generator. A copy of each analytical result will be kept in the generator's file for each sample of a generator's wastes.

11.5 Facility Inspection Records
[40 CFR Sections 264.15(d) and 264.73(b)(5)]

The facility inspection procedures are outlined in the Waste Inspection Plan, Section 7.0 of this Permit Application.

Records of these inspections are kept on-site for three years from the date of inspection. Sample inspection records are provided in Appendix M.

11.6 Contingency Plan Implementation
[40 CFR Sections 2674.56(j) and 264.73(b)(4)]

Contingency procedures are described in the Contingency Plan in Section 10.0 of this Permit Application.

A brief report outlining any actions taken if an emergency requiring implementation of the Contingency Plan takes place should be written and filed in this record by the Emergency Coordinator. This report should include all agencies contacted, extent of the emergency and any remedial action taken.

Ordinarily, the Contingency Plan will be implemented in the following situations:

(1) Fire and/or Explosion

- a. A fire causes the release of toxic fumes.
- b. The fire spreads and could possibly ignite materials at other locations on-site or could cause heat-induced explosions.
- c. The fire could possibly spread to off-site areas.
- d. Use of water or water and chemical fire suppressant could result in contaminated runoff.
- e. An imminent danger exists in that an explosion could occur, causing a safety hazard because of flying fragments or shock waves.
- f. An imminent danger exists that an explosion could ignite other hazardous waste at the facility.
- g. An imminent danger exists that an explosion could result in release of toxic material.
- h. An explosion has occurred.

(2) Spills or Material Release

- a. The spill could result in release of flammable liquids or vapors, thus causing a fire or explosion hazard.
- b. The spill could cause the release of toxic liquids or fumes.
- c. The spill can be contained on-site, but the potential exists for ground water contamination.
- d. The spill cannot be contained on-site, resulting in off-site soil contamination and/or ground or surface water pollution.

(3) Floods

- a. The potential exists for surface water contamination.

11.7 Training Plan Records
[40 CFR Section 264.15(d)(4)]

A list must be kept in the operating record of each job title at the plant and the name of the person filling the position.

A document must be kept in the operating record of the training provided to each employee. The training record must be kept until closure. Training records on former employees must be kept for at least 3 years from termination of employment.

A list of job titles at MacDermid, Inc. and the name of person filling the position is included in Section 8.0.

11.8 Ground Water Monitoring/Testing/Analytical Data
[40 CFR Section 264.73(b)(6)]

MacDermid, Inc. is not an owner or operator of a surface impoundment, landfill, land treatment facility or incinerator, therefore, is not required to comply with the regulations presented under Sections 264.90, 264.94, 264.276, 264.278, 264.280(d)(I), 264.347 or 264.377.

11.9 Closure Cost [40 CFR Section 264.73(b)(8)]

Closure cost for the MacDermid, Inc.'s hazardous storage and treatment facilities are outlined in the Closure Plan, Section 13.0 of this Permit Application.

Verification of assurance for the closure costs is included in Section 14.0 of this Permit Application.

[illegible]

FIGURE 11.2

TANK: Volume in Gallon

[illegible]

FIGURE 11.3

[illegible]

[illegible]

OP40K002
DER-NUMBER L/L PART NUMBER 17395000GL111
QUANTITY ORDERED 1300.000 X BLK GL
START DATE 2/05/90
DUE DATE 2/07/90
SHELF LIFE 12.00 MNTH
BATCH 358
RUN DATE 2/02/90
REPORT DATE 2/02/90
PAGE 1
SHEET 1

* INSTRUCTIONS ***
QUANTITY PROCESSED
REJECTED D/T START D/T FINISH OPERATION DESCRIPTION

1.
2.
3.
4.
5.
6.
7.

Copy to 2-11-90

QTY REQUIRED	STOCKNO	ISSUED	DATE/TIME	RETURNED	DATE/TIME	QTY USED
8824.621 X 001 LB		8824.621 LB	2-5-90	0	2-5-90	8824.621 LB
2.717 X 001 LB		45.22 LB	2-5-90	42.02 LB	2-5-90	3.22 LB
2048.852 X 001 LB		2,000 LB	2-5-90	0	2-5-90	2,000 LB
1851.499 X 001 LB		2,100 LB	2-5-90	0	2-5-90	2,100 LB
4.901 X 001 KG		6.58 KG	2-5-90	1.34 KG	2-5-90	5.245 KG

FIGURE 11-5
BATCH CARD
MACDERMID, INC.
526 HUNTINGDON AVENUE
WATERBURY, CT

FOLLOWING CODE 9 MATERIAL IS AVAILABLE:

PROD N DESCRIPTION CLASS STOCKNO QTY STOCK